SAFETY MAINTENANCE & PRODUCTION

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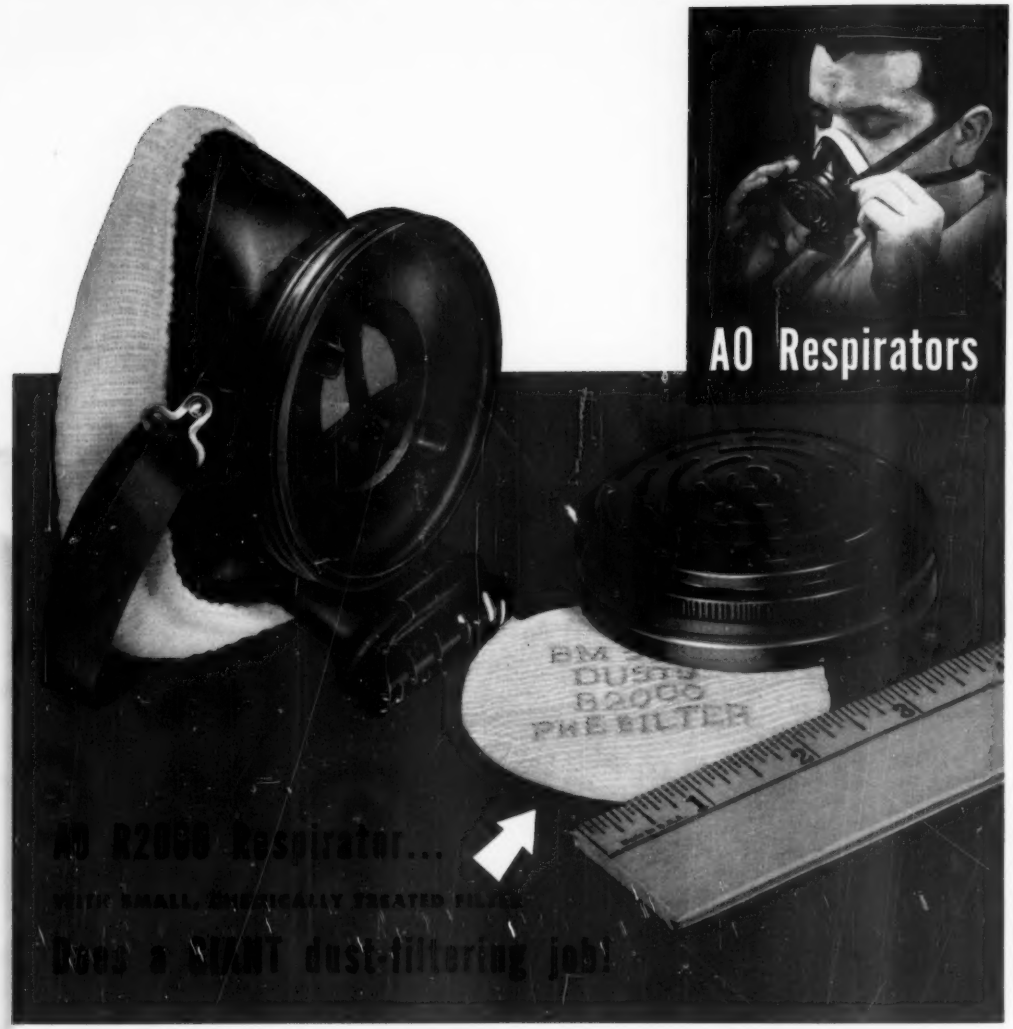

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- Exhalation valve expels air completely with maximum drainage, minimum resistance. Valve won't stick, dust cannot enter
- No tools needed for disassembly when washing rubber and metal parts

American Optical COMPANY
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

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Black Glove, Neo-Cord sole & heel.

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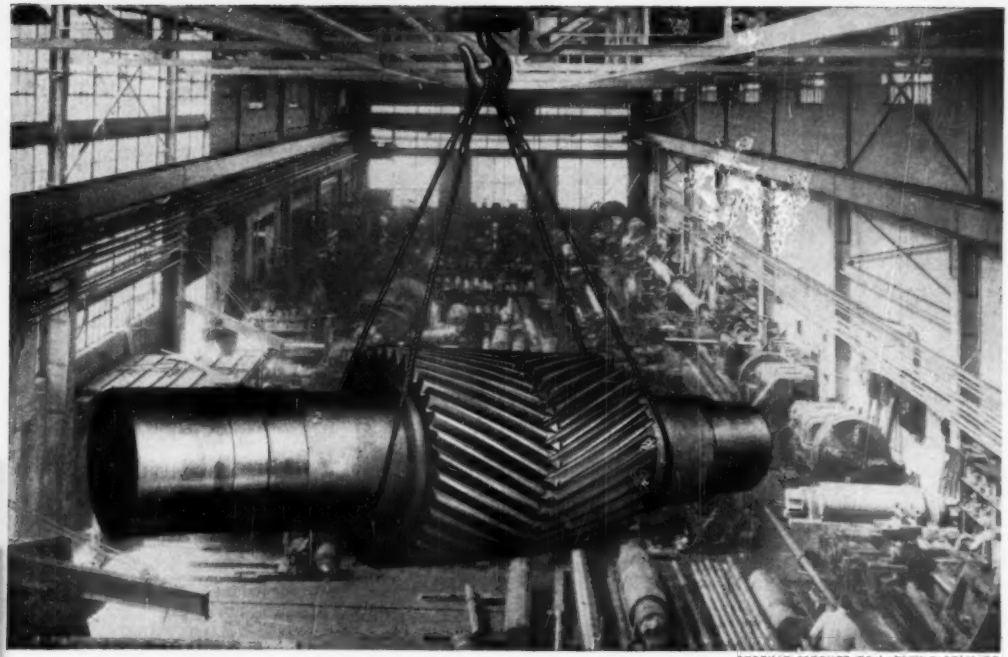

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Picture of a Free Man!

thanks to

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Cesco's New #600 AIR-FED HOOD. *Approved by* U.S. BUREAU OF MINES *under "Class C" Respirator for use where toxic dust and fumes are encountered. Operating pressure 5 to 9 pounds.*

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CESCO's #600 has an extra-large, clear plastic window for extreme, wide angle vision. In addition, its adjustable plastic headband is mounted to the hood on a friction swivel to allow full vision up or down as the user moves his head.

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FREE ***to work better, faster, more safely!*** • The exclusive advantages of CESCO's new #600 AIR-FED HOOD are bound to increase worker comfort, safety, and output. It is ideal for lead discing and other grinding operations, light sandblasting, paint spraying, etc. Write for more detailed information or see your Cesco Distributor.

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The Magazine of Safety

Reg. U. S. Pat. Off.

A MONTHLY PUBLICATION DEDICATED TO ACCIDENT PREVENTION, MAINTENANCE, HEALTH CONSERVATION AND FIRE CONTROL FOR EFFICIENT PRODUCTION.
EST. 1901

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PICTURE CREDITS
Our Thanks for the Courtesy
Cover: U. S. Air Force

AMERICA'S PIONEER MAGAZINE IN ITS FIELD

SAFETY MAINTENANCE & PRODUCTION is indexed regularly by Engineering Index, Inc., New York

Look what the "cat" dragged in

Charley Grecco has a soft spot in his heart for Lehigh Safety Shoes. This one saved him from being crippled for life! He was standing on the "cat" track of a bulldozer when the machine slipped in gear and started to roll. His shoe was gripped in the treads . . . mangled against the frame! But Lehigh's extra-tough construction proved its worth again. The steel toe box was barely dented. The sole-leather counter kept the back of his foot from being sheared off. The "cat" treads gouged through the double leather sole...but stopped against the steel arch-shank underneath. When he got the shoe off, Charley had a couple of bruises...nothing worse. Want guts in *your* safety shoes? This is how LEHIGH builds them all!

Just out! • Write today for NEW Catalog No. 15 with 43 different styles of safety shoes and boots. It's free.

It's Safe to Say

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★ THE CROSS ROADS

FIVE years ago after our glorious victory over the forces of fascism in Italy, Germany and Japan, we would have been shocked into incredulity had any responsible individual been so bold as to predict that we would be forced to take a stand against the aggressions of a then "gallant ally" into whose war machine we had been pouring millions of dollars. Five long years, however, have shown that regardless of its name, there is no compromise with ruthless dictatorship, bent upon weakening and destroying the very foundations upon which this country has been built.

We bow to no one in our horror of the blood spilled to date in Korea. Pictures of white crosses bring poignant sorrow and heartache in a so-called police action to the same extent as if the President of the United States had asked Congress for an actual declaration of war. Moreover, footsore, freezing and bleeding soldiers have suffered unspeakable privation against colossal odds since that fateful day last June when hordes of communists began their fanatical march in Korea. Try telling those youngsters, many of whom were thrown into battle without adequate training, that we are not at war and you would receive a well-deserved snort of derision for your pains.

And yet what were we to do? Pull out of the Far East in abject appeasement so that the smouldering flame would live to burst out elsewhere? From bitter experience at Munich we learned that appeasement or even compromise will be considered acts of decadent weakness of which every conceivable advantage is taken.

It would seem to us therefore that the President was justified in declaring a state of national emergency just as this issue was ready for the presses. Obviously, it was no easy decision to make, and howls will emerge from the throats of those who feel that their toes are being trampled. And yet, if we are any judge of the temper of our people, the declaration—if anything—was delayed overlong.

Confront the American people with a common danger; make that danger eminently clear and we spring into action, forget partisan politics and do a job that is the envy of the civilized world. This is no time to be unduly "Texas" and boast of superiority and delude ourselves with being the mostest of the biggest and the bestest. That way lies danger. Nevertheless, given proper leadership we will not flinch at common sacrifice in order to save the only measure of true freedom and democracy that exists anywhere in the world.

It seems to be the fate of our Republic to be faced with danger from the outside every so often. In each case, the sacrifices our people have been called upon to bear have been varied and incalculable. And yet, there is not a right-thinking man in this country who has not considered those sacrifices well spent in the light of benefits to himself and his family.

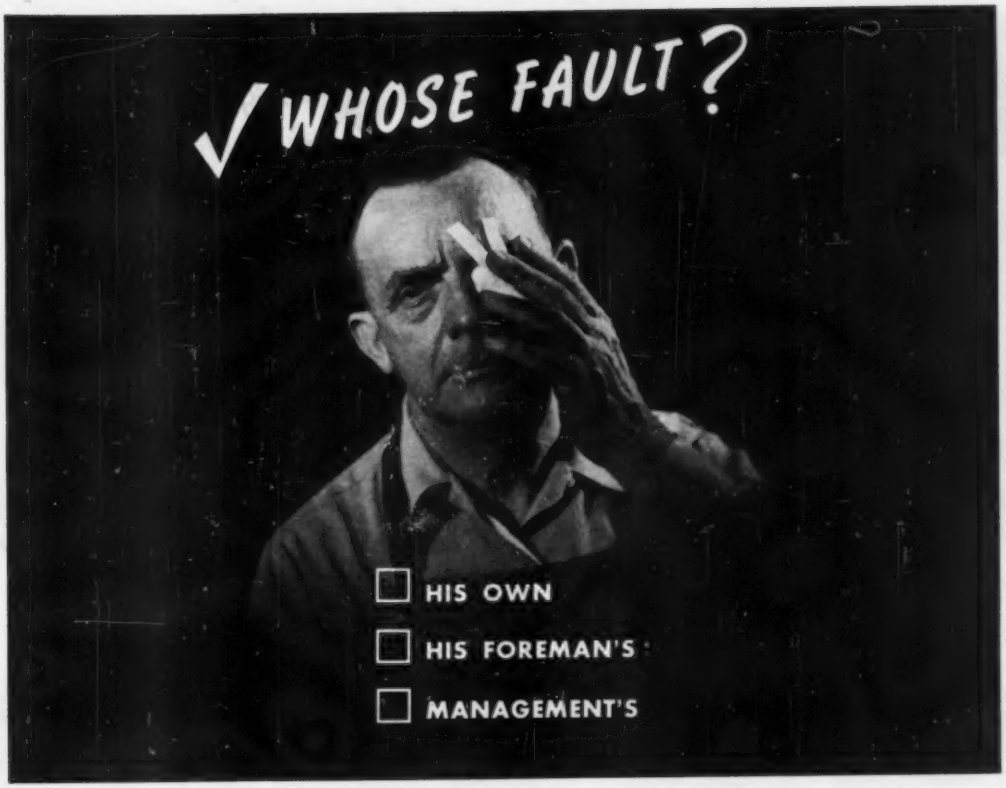
Tragically enough we are also faced with danger from within, this time. It would be an unrealistic soul who refused to recognize that the enemies of democracy have hordes of blind or downright traitorous followers among the citizens of this country and certainly, their names do not always end with "sky" or "ovitch." For that reason, it behooves us to be on guard constantly if we are to step over the giant stumbling blocks placed in the path of production during the days to come.

Aside from deliberate sabotage, no greater tool working in behalf of our potential enemies can be imagined than that which strikes directly at the heart of our stepped-up production schedules. That tool takes the form of accidents in our industrial establishments and, in fact, in all work places. Even in calmer days, accidents are a burdensome strain on the national economy but in these days of national emergency, they can be another name for treason.

Accidents on the production line are a stab in the back of our armed forces who depend upon the output of civilian workers for actual existence. Guns, planes, ships, tools, shoes, clothing, food and everything else vital to sustain life must be produced by others. When that production flow is slowed down or even halted by preventable accidents, fires, and industrial ailments, we then play directly into the hands of those sworn to destroy our way of life.

As in World Wars One and Two, this publication voiced the belief that safety and good maintenance are necessary to efficient production. Once again, we enter the plea for those twin factors of production in the hope and with the prayer that we can become sufficiently strong to avoid World War Three. May our Heavenly Father give us the strength to stave off the forces of evil which threaten civilization itself.

H.A.



1 SELL EYE SAFETY TO EMPLOYEES
Ask your distributor's representative to show you the kit of posters, pay envelope inserts, PA system scripts and other material that sells workers forcefully on *desire to use* proper safety eyewear.

2 SAFETY GLASSES FOR EACH JOB
A complete range of Bausch & Lomb safety eyewear, engineered to meet the most rigid tests for each job classification in your plant.

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For at least 50% of your workers prescription lenses are necessary to working efficiency as well as to safety. Your B&L distributor offers prompt prescription service on all types of industrial eyewear.

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Casualty companies have long agreed that a *total* eye safety program must include education of workers by management.

Bausch & Lomb is prepared to assist with a forceful educational program. It's part of a *total* eye safety service you can put into operation immediately. Write Bausch & Lomb Optical Co., 693-I St. Paul St., Rochester 2, N. Y.

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All parts get a disinfectant spray, are dried in a steam cabinet.

All worn parts are replaced and new filter installed, in reassembling.

Each respirator gets a cellophane wrap, is then bagged for delivery.

Every worker gets a sterile respirator every day . . . and he wears it!

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MSA COMFO Respirator

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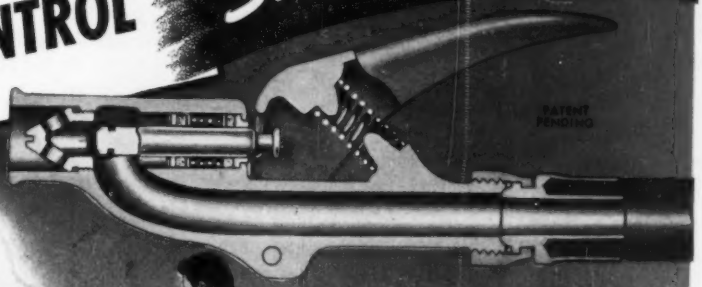

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- Each nozzle gas pressure tested after assembly.
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- Designed for use by inexperienced operators.
- Low velocity, more effective stream of dry chemical.

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If your hazards require special long range straight stream nozzles, you can get Ansul Extinguishers equipped with these nozzles at no extra cost. With Ansul Dry Chemical Fire Extinguishing Equipment you have not only the best fire protection but also a choice of models and designs to meet your requirements.

Send for File No. 644. You will receive our latest catalog, a Periodic Inspection Record Chart, "Fundamentals of Fire Extinguishment" and information about Ansul Dry Chemical Piped Systems for automatic protection.

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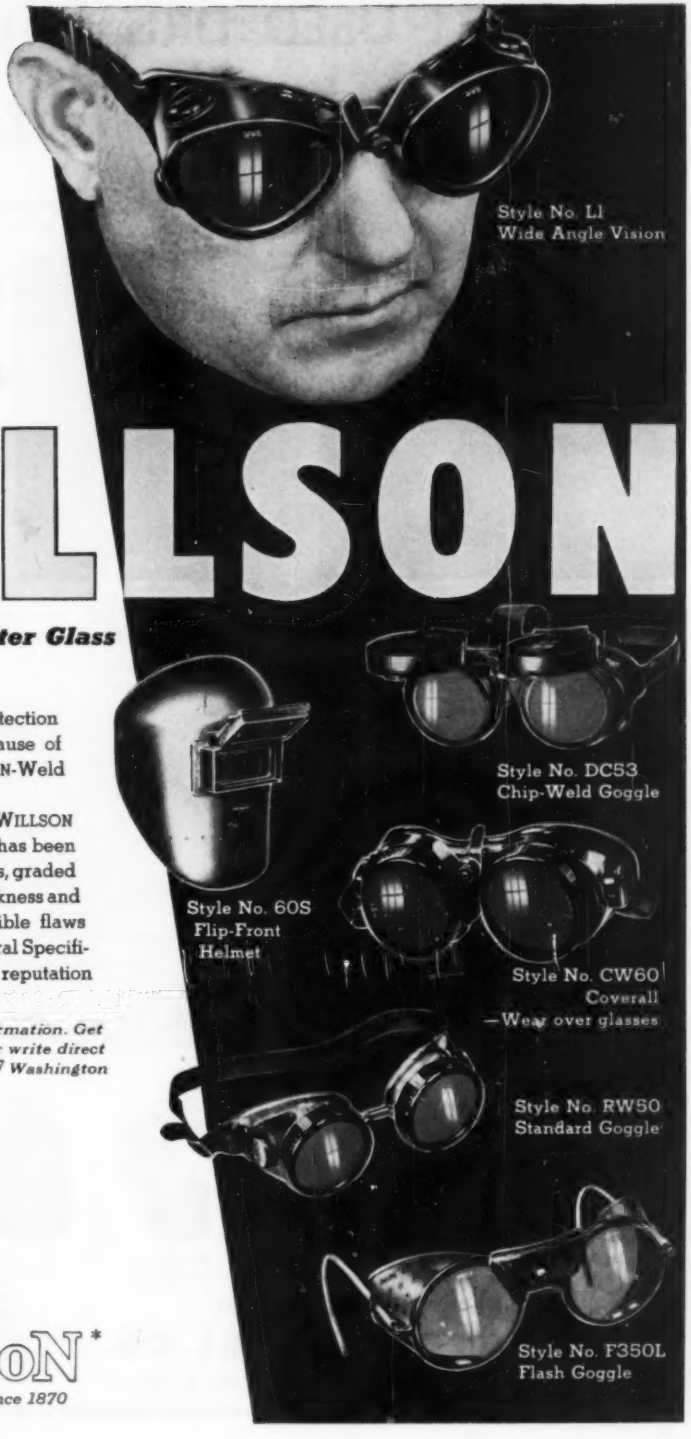
By showing Americans what they can do to protect themselves and their families against cancer, the American Cancer Society is saving thousands of lives *today*. By supporting science and medicine in the search for the causes and cures of cancer, the Society hopes to save countless more *tomorrow*. *Your* best insurance against cancer:—Make a habit of having regular periodic physical check-ups no matter how well you may *feel*. Learn the basic facts about cancer . . . Telephone the American Cancer Society office nearest you or address your letter to "Cancer" in care of your local Post Office.

American Cancer Society



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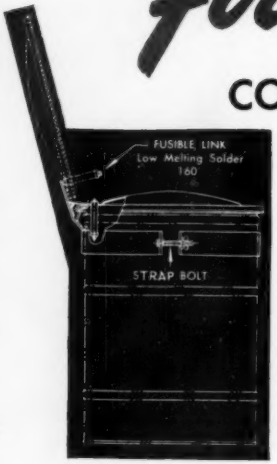

SPECIFICATIONS

The Protectoseal Self-Closing Drum Cover is constructed of heavy gauge steel, and is available in two sizes:

Cat. No. 4830 for 30 gal. drum
Cat. No. 4955 for 55 gal. drum

A fusible link closing device is set inside the cover near the hinge. At 160° F. the solder melts, releasing the plunger spring which closes the lid instantly. Should the fusible link be destroyed by fire, *Protectoseal* Special Solder replacements are easily screwed in position to reset plunger.

WITH ONE SPIN OF A WING NUT,

any inexperienced employee can convert a used steel drum into a valuable piece of fire-prevention equipment. No special tools are necessary. Fit the collar of the *Protectoseal* Self-Closing Drum Cover over the top of an empty 30 or 55 gallon drum and tighten the bolt. This simple operation makes a large capacity fire-safe waste container for combustible materials.

FUSIBLE LINK CLOSES COVER AUTOMATICALLY . . . SMOTHERS FIRE

If temperature within drum reaches 160°, the fusible link in the *Protectoseal* Drum Cover melts, releasing spring-loaded plunger. This action closes cover instantly snuffing out fire within drum or protecting contents of drum from outside sources of ignition.

Protectoseal No. 883 Laboratory Bench Can

One-gallon oval shape can made to economize space on laboratory shelf. All the fire prevention features of a regular safety can including a double cylinder, perforated fire baffle. No channel around top of can to permit solvent or dust to collect. Smooth back surface for stenciling on names of solvents. Pistol grip—easy to grasp and pour out of can.

Protectoseal No. 750 Air-Matic Parts Washer

AIR POWERED (not air agitated) washing tank operates on any compressed air supply. In case of fire the 160° fusible link melts, drops lid and snuffs out fire. Parts to be cleaned move *through* the solvent instead of *with* it and thus minimizes turbulence and vapor losses. 6½ gallon capacity designed for use with mineral spirits.

Protectoseal Fire Extinguishers

Underwriters Laboratories Approved for Class A-1 fires. No. 280 2½-gallon and No. 281 5-gallon capacities. Constructed of heavy gauge lead coated steel with electrically seam-welded seams. Interior corrosion resistant-coated with two applications of asphalt base paint. Double action pump maintains steady pressure and stream of 30 feet minimum at normal pumping speeds.

Protectoseal No. 208 Tilt Can

Safe, anti-drip 5-gallon can pivots in a cradle and permits clear view of pouring, full control of flow rate and quick shut-off. Faucet and filler opening are self-closing by spring action and are equipped with double cylinder, perforated fire baffles to prevent ignition of contents.

Protectoseal Supply Can

Protectoseal Plunger Can

Protectoseal Oily Waste Can

Protectoseal Bench Can

Protectoseal Safety Can

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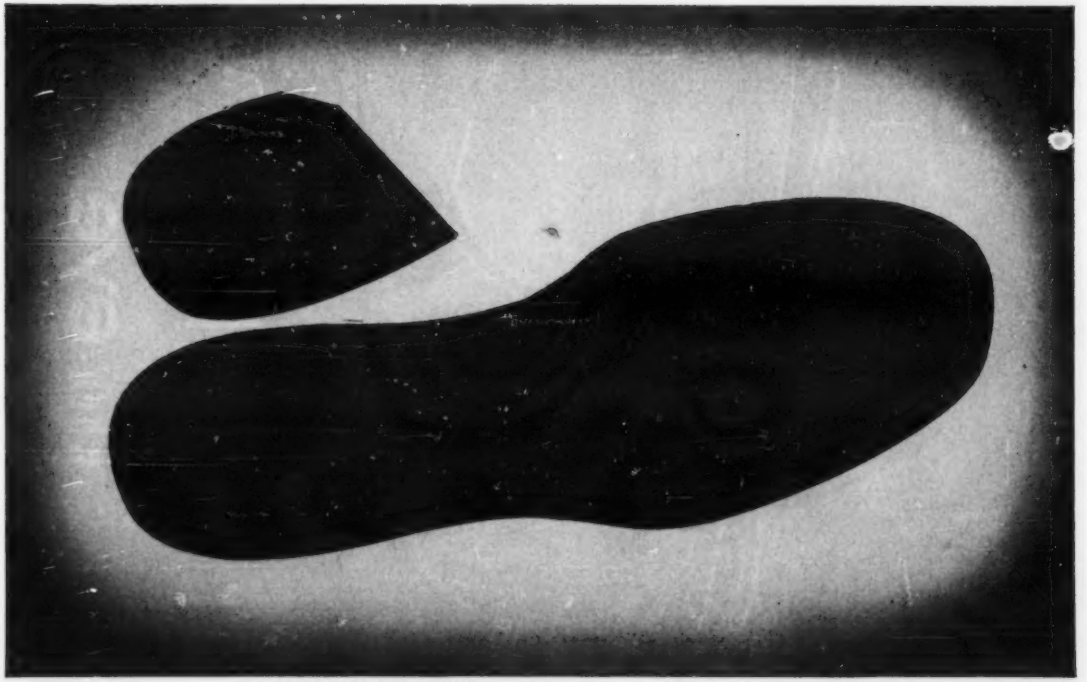

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SAFETY MAINTENANCE & PRODUCTION

VOL. 101, NO. 1 • JANUARY, 1951

Who's To Blame For ELECTRICAL ACCIDENTS?

***SAFETY MAINTENANCE & PRODUCTION* continues its summary of some of the speeches presented at the National Safety Congress. Here are what the experts have to say about electrical hazards.**

MODERN industry would be impossible without electricity. Yet this vital force which keeps the wheels turning demands the utmost care in its use and in the maintenance of equipment. It is not surprising therefore that at a conference as comprehensive as the National Safety Congress held in Chicago, with its vast array of safety and maintenance products and equipment and with its specialized meetings devoted to all aspects of accident-free production, several of the speakers should direct their listeners' attentions to the subject of the use and abuse of electricity.

Don't blame electricity for an accident. Look for the guy who misuses it. This accusation was presented by L. H. B. Peer, supervisor of safety at the Knolls Atomic Power Laboratory of General Electric Co.

"Electricity under control is a good servant," he declared. "When standard and approved equipment is used to control this servant, safe operation depends only on the user, for the most modern, expensive equipment in the world is valueless if the person using it fails in following through accepted safety regulations."

Proper grounding facilities, locking out of switches and valves and incorporation of relays in circuits were among the things Mr. Peer proposed to protect workers in use of low voltage equipment.

"We have learned to control and respect high voltages because we realized the dangers they presented," he said. "Likewise, we can also control the low voltage hazards through a constant awareness of the dangers involved."

Corn Off the Cob

Corn cob grits have become a valuable cleansing agent for steel mill electrical equipment, requiring less time for a cleaning job. This keeps the equipment out of operation for a shorter time and adds another notch in all-out steel production. The merits of corn cob grits were outlined by J. G. Schoff, general foreman of the electric and tractor shops of the Carnegie-Illinois Steel Corp., Gary, Ind.

The speaker said the use of corn cob grits eliminates possible toxic and flammable fumes produced by liquid solvents, requires less time to do the job, reduces the amount of time equipment is inoperative because of less drying time and dismantling, costs less and effects an important saving in manhours of labor.

When you asthma sufferers go to a hospital for a treatment and find yourself sounding like Donald Duck when you talk, think nothing of it. It's a temporary result from mixing helium with other gases used in the treatment to nullify any danger from static electricity.

This was reported by G. M. Kintz, chief of the accident prevention and health division of the Bureau of Mines at Dallas, Tex., in a discussion of static electricity and how to control it, speaking before the petroleum section.

Mr. Kintz said that the accumulation of static electricity can be prevented by bonding or grounding all metal objects, holding relative humidity of the atmosphere at a sufficiently high level and neutralizing static electricity by providing a supply of oppositely charged ions.

If you want to know if there are any weak spots in the insulation on a high voltage wire, throw it in a tank of water. It's *(To page 43)*

NEW PAINT

By SAUL LEE
Flame-Seal Corp. of America
Long Island City, N. Y.

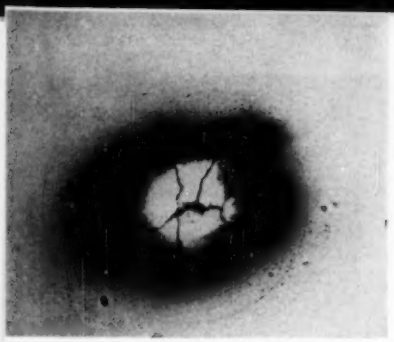

Figure 1, showing Panel 1 after twenty-minute fire test with three-quarter inch diameter burner. Panel flames were confined to sixteen inch diameter area.

FEATURE

This is the fifth of a series of five feature articles on Fire Protection. The first four articles, dealing with Class A, Class B, & Class C Fires, and Storage Containers, appeared respectively in the September—December issues of SAFETY MAINTENANCE & PRODUCTION.

TO PREVENT fire, the excellent servant, from becoming the destructive master is a problem that man has faced since it became a usable tool. History records numerous techniques for fire prevention. With the development of paints and coatings as protective surfaces came the search for materials which can be applied easily to combustile surfaces—materials that would serve as a fire preventive or fire-retardant. As early as November 11, 1837, the U. S. Patent Office granted the initial patent for a fire-retardant paint that mentioned the use of such ingredients as lime, potash, alum, common salt and molasses.

Our purpose in this article is to deal with those fire retardants that can be applied by brush or spray to combustible surfaces such as wood, fibre board, partition board, acoustical tile, metal, etc. Specifically, our interest is in fire-retardant paints and coatings. It would be well to define our terms at the very outset. By fire-retardant paint or coating, we mean a paint or coating that will meet the following criteria: 1. Within defined limits, it will not support combustion or contribute to the spread of flame. 2. Flaming can be made to decrease or to cease after the source of ignition has been removed.

It is important to note that the term used is "fire-retardant"—not "fire-proof." It is an unfortunate fact that the indiscriminate use of the word "fire-proof" in connection with paints and coatings by the too eager or unscrupulous has done much to delay the acceptance and use of fire-retardants. No paint or coating known at this time, for general application, can live up to any commonly accepted definition of fire-proof.

How do the fire-retardant paints and coatings work? In general, present day products will form a protective mat several times the original thickness of film at the point of flame contact. This protective mat will not burn; it will not contribute to the spread of flame; it will exclude air from the protected surface of the material. Should the "protective mat" disintegrate because of the continued application of high heat or flame at that point, the surface of the material will char and flaming will be confined to a very small area

Log of 20-Minute Fire Test on Panel 1

Fibre board had two brush coats of fire-retardant paint. Test specimen was attached to cement asbestos board and suspended horizontally 28¾ inches above an air-gas burner which had a ⅜-inch burner tip.
Increasing temperatures were measured at point one inch below center of specimen.

TIME: Minutes	FLAME TEMP.: Degrees F.	REMARKS
2	405	Slight blistering over 14″ diam. Slight discoloration over 4″ diam.
4	800	Blistering over 26″ diam. Black discoloration over 9″ diam.
6	1110	Blistering over 30″ diam. Black discoloration over 10″ diam.
8	1215	Persistent yellow flaming over 16″ diam. Discoloration over 12″ diam. Glowing in central area. Central cracks 6″ long, ¼″ wide.
10	1295	No change in conditions.
12	1345	Cement asbestos backing board dished down ¼″ from center batten. Intermittent yellow flaming over 16″ diam. Discoloration over 16″ diam. No change in other conditions.
14	1390	Persistent yellow flaming over 16″ diam. Discoloration over 20″ diam. Central cracks 9″ long, ⅜″ wide. Glowing in central area.
16	1410	Persistent yellow flaming over 12″ diam. No change in other conditions.
18	1435	No change in conditions.
20	1460	Exposure flame turned off. Yellow flaming and glowing of panel ceased in 21 seconds.

RETARDS FIRE

At long last there is a real fire-retardant *paint*—for exteriors as well as interiors. It not only prevents the spread of flames but also withstands weathering.

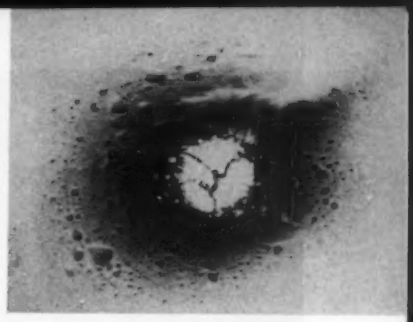

Figure 2. In second test, the flaming of Panel 2 did not go beyond an eighteen inch diameter circle. Flaming and glowing ceased nine seconds after removal of burner.

for a limited period. The factors governing the flame spread in this area are: the types of surfaces coated, the amount of protective coating applied, and the intensity of the flame.

Testing Procedures

The official photographs (Figures 1 and 2) of the Columbia University Research Laboratories, showing two panels which they tested, well illustrate this latter point. These panels were made of fibre board and painted with a recently developed fire-retardant paint. Panel 1 had a slightly heavier coating than Panel 2. After being subjected to a twenty minute fire test with a maximum temperature reading of 1460 degrees F., Panel 1 showed that flame was held to a sixteen inch spread, Panel 2 was held to an eighteen inch spread. This test was conducted under the standards set forth in the Federal Specifications SSA-118a, which state that a paint cannot be classified as fire-retardant if there is flame spread beyond thirty inches.

Does it work outside the laboratory under normal conditions of applications? Figures 3, 4, 5 and 6 depict a house, one half of which was unpainted, while the other half and the wall separating the two were painted with the same fire-retardant paint * tested at Columbia. A fire was set in the unpainted half. Of course, that half was completely consumed. The protected half remained undamaged.

Of greater significance is the increasing number of manufacturers of building materials who are now painting their products with fire-retardant paint prior to distribution, the ever-growing list of architects who are specifying it, the municipal and state authorities who, through their building codes, are making its use mandatory for specific structures and areas, and the growing list of safety-conscious persons and firms who are now using it in plants, in homes and on the farms, both here and abroad.

What Is a True Paint?

Is there a difference between a fire-retardant paint and a fire-retardant coating? If they each meet the accepted standards for fire-retardants, their differences lie in the practical and commercial values. "Coatings" presently being made are of a water soluble type and therefore of limited application as they cannot be washed or cleansed, cannot be exposed to weathering, high humidity or mois-

(Continued on page 49)

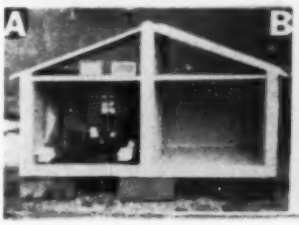

Figure 3. (Left) The "A" half of model house is unpainted. "B" half is painted with fire-retardant paint.

Figure 4. (Right) 3 minutes after start of fire, which spreads rapidly through unpainted "A" section. Protected "B" half shows no sign of combustion.

Figure 5. (Left) 8 minutes later. Unpainted "A" half is now a charred mass of burned wood. "B" half still has not supported any flame or given off any smoke.

Figure 6. (Right) 16 minutes later. Entire "A" half of house has been completely consumed. "B" half, protected with fire-retardant paint, is still undamaged.

* The name of this paint and the address of the manufacturer can be obtained on inquiry to the Editor.

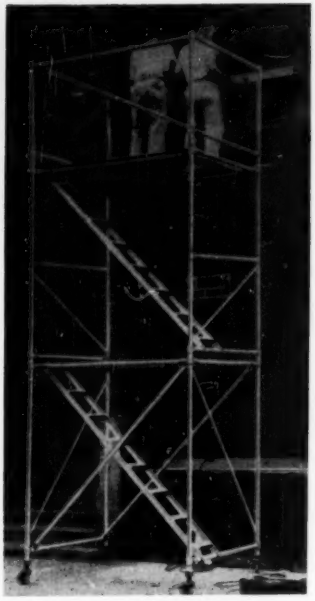

Fig. 4. Aluminum rolling scaffolds indicate use of modern methods for high public opinion value.

How the advanced design and the use of light metal in scaffold construction will cut accident hazards, give workers firm footing for off-the-ground jobs . . . and help to reduce maintenance costs.

Versatility KEYNOTES ALUMINUM

FEATURE

This is the second of a consecutive series of three major articles dealing with Above-Ground Safety. The next article of the series will appear in the February issue of SAFETY MAINTENANCE & PRODUCTION.

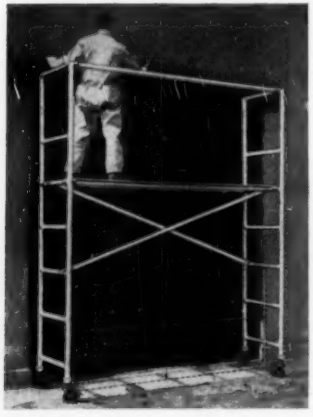

Fig. 5. Ladder scaffolds are designed to clear obstructions. Adjustable casters increase the height and also permit leveling on uneven ground.

IN this atomic age, even maintenance equipment has gone modern. Every means has been explored to increase operating efficiency, promote worker safety and reduce costs.

Old-time maintenance men might well be amazed at the tremendous changes that have occurred—particularly in scaffolds. In place of cumbersome, unsteady, immobile and not-too-safe wooden structures for putting men at working level, modern equipment is soundly engineered, designed for ease of handling, and provides a high degree of safety. All of these advantages contribute to a better standard of work because men can do their jobs with greater convenience and security.

Rolling scaffolds, made of aluminum, are an outstanding recent development in this field. They are available in a large variety of sizes for many types of work. Assembled from standard frames, braces and platforms, they are readily adapted to the specific needs of the work to be done.

In general, the advanced design of modern rolling scaffolds opens up a whole new concept of scaffolding use. From casters to top guard rail, this type scaffolding is definitely safer and usually far more economical than hazardous, makeshift equipment. Also, time studies show a practical saving in man hours—both for erection and use—as well as a decreased accident rate.

Without sacrifice of structural strength, the use of aluminum for the major components makes scaffold erection and dismantling practically a one-man operation. Frames are easier to handle and the complete assembly can be quickly and easily moved as work progresses. The use of aluminum is in itself an added safety factor as men are less prone to accidents when handling lighter sections and parts.

Experience with modern, versa-

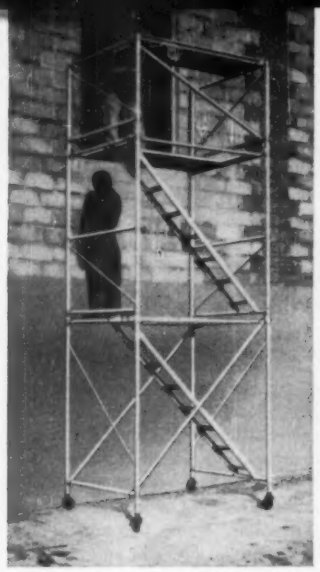

Fig. 1. This stairway type rolling scaffold is 2½ sections high. Casters are adjustable.

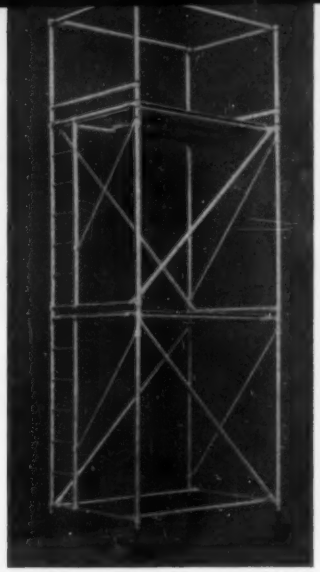

Fig. 2. Ladder type scaffold, two sections high, with guard rail. Ladder is part of frame.

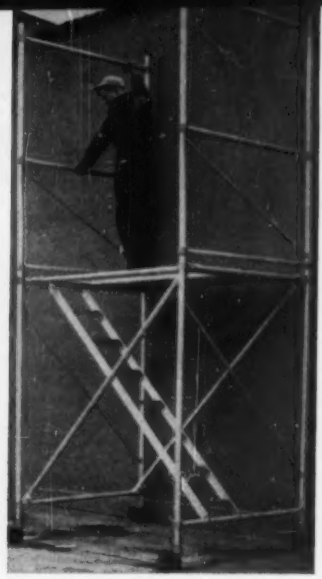

Fig. 3. Simplicity of design allows one man to handle individual components of scaffold easily.

ROLLING SCAFFOLDS

By EDWIN J. BIENECKE, JR.
The Patent Scaffolding Co., Inc.
Long Island City, N. Y.

tile aluminum rolling scaffolds reveals a wide range of uses. More ways are found as familiarity with these scaffolds and their applications grow. Indoors or out, aluminum rolling scaffolds are used effectively by factories, office buildings, power plants, railroads, hospitals, institutions, public buildings and many others. Specific applications include painting, decorating, cleaning, etc.

Those who now employ aluminum sectional rolling scaffolds for maintenance work report that such equipment is a practical timesaver . . . not only in getting *better* work done *faster*, but also because erection and dismantling can be done so *quickly*. Aluminum's lightness makes this possible. Scaffolding strength is not sacrificed because the alloys used are tough and strong. All frames, braces and platforms are prefabricated at the factory. Interchangeable parts make it possible to erect as many

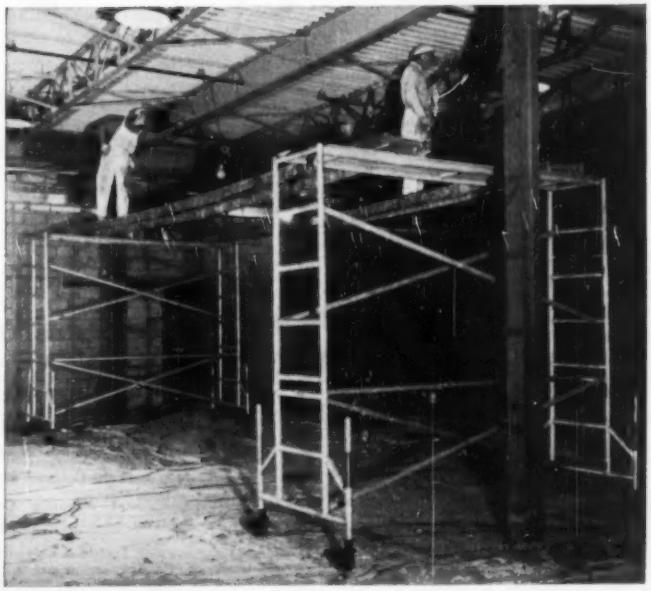

Figure 6. Here two aluminum rolling ladder-type scaffolds are joined by painters stages for use in covering a large area. Note the use of extension bases for increased stability of the equipment.

sections as the job may require, consistent with normal safety practice.

Two Types of Rolling Scaffolds

Mobile scaffolds are divided into two major types: sectional rolling scaffolds and sectional ladder scaffolds. A typical example of the former type has base dimensions of 4′ 6″ x 6′; while ladder scaffolds, also available with casters, are 24″ wide.

In turn, aluminum sectional rolling scaffolds are available in two styles: with a separate diagonal stairway attachable to the frames (Fig. 1) or with an upright ladder built right into the frame (Fig. 2). The complete assembly includes working platform or platforms, guard rails and adjustable, ball-bearing casters equipped with brakes.

A typical aluminum rolling scaffold is made up of one or more sections. The bottom section, including casters, is 7′ 4″ from the ground to working platform. Additional sections are 6′ 8″ high, found to be the ideal distance for providing headroom between working levels. Frames for the intermediate or upper sections slip over a sprocket in the lower section and are secured by a hinged pin as an added safety feature. This makes a safe, positive connection that cannot work loose.

Another safety feature is provided by guard rails that are quickly and easily fitted. Outboards safety-support frames are also available so that the scaffold height may be increased without exceeding the normal safety factor which requires that the smallest base dimension of the scaffold be not less than 25% of the total height to working platform.

Additional protection to maintenance workers is supplied by casters that adjust in height to compensate for uneven ground or floor surface. Adjustments up to 18″ or 24″ are possible with the two major types of casters.

Normally, one man can erect or dismantle an aluminum sectional rolling scaffold. (Fig. 3.) In spite of their great strength, the frames are light and easily handled. Use of interchangeable parts simplifies erection for any job—in heights ranging upwards of 7′ 4″. The components lie flat for storage or transportation; make a neat, compact bundle and require a minimum of space.

A highly desirable feature of aluminum rolling scaffolds—especially where work must be done in public view—is their clean, bright, finished appearance. (Fig. 4.) Aluminum makes a neat, modern-looking scaffold—especially important in public buildings and for use where maintenance or construction work must be carried on during business or visiting hours. Aluminum alloys resist corrosion under normal atmospheric conditions.

Use of aluminum rolling scaffolds is rapidly increasing in churches, banks, railroad stations because maintenance work can be carried on safely without interruption of normal activity. A scaffold of this type occupies little floor space and is easily moved as work progresses. This is a highly important feature because, with aluminum rolling scaffolds, it is unnecessary to scaffold a large area of floor space—a procedure that is always an inconvenience.

By using standard components, as is done with these prefabricated scaffolds, it is possible to erect continuous assemblies that cover the full width of the working area and can be moved as a unit.

Ladder Scaffolds Useful in Limited Space Areas

The basic unit of a typical aluminum sectional ladder scaffolding is a frame 6′ 1″ high, 24″ wide. In combination with floor sections, diagonal and horizontal braces, intermediate and extension sections and guard rails, a large variety of assemblies can be put together to fit the actual needs of specific jobs. Scaffolds providing spans of 6′, 8′ or 10′ are available. (Fig. 5.)

Ladder scaffolds roll easily through 30″ doorways and are ideal for use in aisles and other locations where working space is at a minimum. Scaffolds of this type will clear obstructions up to 6½′ including caster adjustment. They may be used in factories to work above machines and permanent installations . . . and in stores and offices to clear counters and desks.

Additional flexibility is provided by 5″ rubber-tired *(To page 51)*

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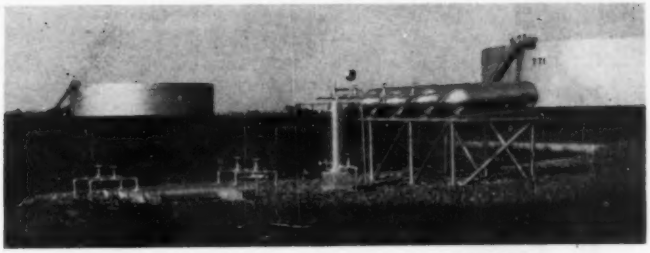
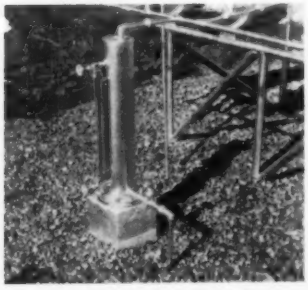


Complete ammonia injection installation of the manifolded cylinder type.

Ammonia Controls Corrosion

OF OIL FIELD EQUIPMENT

- FOR:
- Greater Safety
- Better Maintenance
- Higher Production



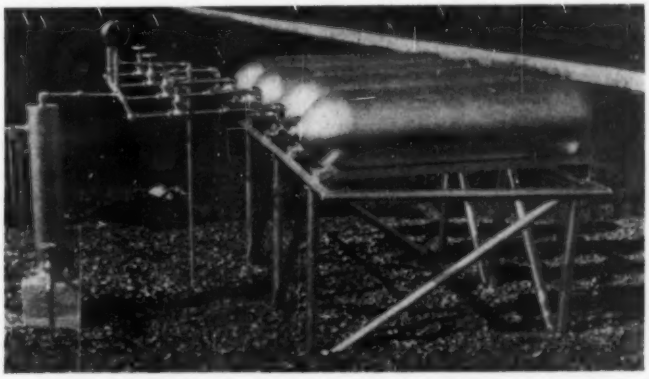
Close-up of liquid level gauge for measuring tank.

CORROSION of pipes, tanks and other oil field equipment has been one of the most expensive trials of the petroleum industry. Solution to that costly problem and correction of the attending hazards of deteriorated tank roofs were elusive until injection of anhydrous ammonia began to be practiced. The Humble Oil & Refining Company's "Safety Information" has described how experimental installations made by the Humble Pipe Line Company at its McCamey and Webster Stations have proved conclusively the effectiveness of this combative procedure in storage tanks handling sour crude.

Two types of installations were made: manifolded ammonia cylinders, and 1000-gallon portable tanks using bulk ammonia. The ammonia is fed from either the cylinders or portable tanks into a measuring tank where the eight to fifteen pounds used for daily injection into each tank may be visibly determined by the liquid level. Then the fluid is turned into an expansion chamber and vaporized to gas. As gas, it moves into the oil tank vapor space through an open end line, entering the cone roof near the center. The complete operation of injecting ammonia requires only about two minutes of the gauger's time for each tank and is as simple as opening and closing valves in proper sequence.

In addition to the appreciable economic advantages obtained, use of anhydrous ammonia is of interest from a safety standpoint. Impairment from corrosion makes cone roofs a hazardous walking surface for gaugers who must reach the thiefing and breathing hatches. Gunited or floating roofs for tanks housing sour crude were costly. Now the cheaper, cone roof can be used safely without frequent replacement.

To protect personnel from exposure around the storage cylinders and feed system, *(To page 50)*



Ammonia is fed from cylinders into a measuring tank. Liquid level gauge is shown at left.

Floor Care

By
WILLIAM P. SHEEHY, Maintenance Engineer,
and
THOMAS C. RICHARDS, Manager, Elevator & Plant Maintenance
The B. F. Goodrich Co., Akron, Ohio

FLOORS usually are the most expendable part of a building and require the most attention. As one company puts it, "Your plant is just as efficient as its floors!" Their upkeep cost is about equal to the sum charged to roofs, walls, doors and windows, providing of course the buildings are normally used for manufacturing purposes, and sweeping and other cleaning costs are included. In our own plants, we find most helpful a simple code system which provides analysis of the details which make up the total cost of building maintenance. The charges are broken down or divided between 17 major items, which include roofs, walls, doors, windows, sewers, toilets, shower and wash rooms, ventilation, drinking water, heating systems, elevators, railroad tracks, pavements, fire protection, painting and floors. Repair costs of wood floors and cement floors are kept separate.

It is not difficult to determine when a floor needs repairs. We are being constantly informed by production workers, supervisors, truckers, safety engineers and pedestrians of bad places or breaks in floor surfaces requiring immediate attention, and failure to act quickly sometimes results in an accident—an upset truck, spilled goods, broken bones, etc. Here is where maintenance people face one of their toughest jobs. We cannot avoid emergency repairs whether on wood or cement floors. Several floor patching materials of admirable qualities both for ease of application and wear are used daily without interfering with regular production output or normal flow of traffic.

At times it is most desirable and economical to resurface large areas of cement floor topping. This calls for closer cooperation between production departments and the maintenance forces, for trucking aisles and manufacturing routines are disrupted and flying dust from breaking up the old floor surface calls for careful control to avoid spoiled goods in process of manufacture. Cooperation, however, is not hard to obtain because production employees are only too glad to get a new smooth floor.

Due to the heavy costs of floor replacement, study should be made as to causes of floor deterioration. Hard surfaces such as concrete are acknowledged as smoothest and best from the viewpoint of hand trucking. By the same token, the hardness of this type of floor lends itself to being comparatively easily chipped and abraided. Trucks and other mobile equipment with iron or steel wheels or casters are hard on floors. Dropping of skid boards or racks, especially certain steel types, digs holes. Iron bars and other metal objects allowed to fall soon take their toll. Nonmetallic wheels or tires, principally rubber, are good insurance for long floor life regardless of the floor materials.

The proper maintenance of floors is an art and an individual condition—one which takes a lot of work and a lot of planning but is worth it in the beauty and the ease of maintenance which can follow.

The systems outlined below are practical, workable, floor finishing suggestions. They are tried, tested and proven on the job by our men. These are not the only ways of caring for floors but they are ways that experience has proved as the

Must Be Efficient

Efficient methods of industrial floor maintenance.
Practical hints to cut upkeep costs.
Some "Don'ts" of floor maintenance.
Premixing of cleaning solutions aids production.

surest, easiest method of maintaining good results, beauty and most of all, protection; but, what is more necessary, at minimum in cost, labor and materials. The materials that you do apply to a floor and the equipment used in the application or cleaning represent less than 5% of the total floor maintenance cost —the rest is manual labor.

Our aim is to cut down the amount of work involved allowing more time for jobs of necessity but hard to fit into the maintenance schedule. Some of the suggestions might sound foreign or new; while others have been in use for years. It should be remembered that these methods are not fool-proof. A great many floors are individual problems that must be treated as such.

Hard Surface Floors

The largest percentage of flooring in our plant is concrete in both factory and some office areas, and therefore presents little problem other than sweeping. This is done at least once daily; the increases in schedules are due to manufacturing conditions. Wherever possible mechanical cleaning equipment is used. We also use dry scrubber and scarifying equipment to remove manufacturing waste built up on this type of flooring.

The other hard surface type of floors such as terrazzo and tiling is swept daily with wide dry cotton mops unless they are in dirty, dense traffic or sanitation areas. Then they are scrubbed with one of the various types of wet scrubbing machines most suitable for the condition and size job at hand. Very little hand scrubbing or mopping is done in our plant other than in toilet areas.

Many older buildings of slow burning construction and mill type buildings have wooden floors. In many cases the type of traffic has been easy on the floors and many have used an oily lay dust in sweeping until their floors carry a fairly high polish. The majority of our wooden floors fall in this category, being located in warehouse or light, clean manufacturing areas, thus requiring only routine sweeping.

These wooden floor areas requiring special treatment due to abnormal surface dirt, and the tendency of wood to splinter or grind off because of traffic or the type of operation they are subjected to, may be protected by giving them two or three coats of a sealer or gym finish and then waxing. This type of finish produces a hand rubbed effect and is recommended because the seal penetrates the surface and combines with the top fibers of the wood, thus producing a case hardening effect. The wax used in connection with this type of finish acts as a buffer which protects the surface and is readily replaced by merely damp mopping and rewaxing. Wax is used to maintain this finish, and each subsequent application of wax will add to the appearance of the surface so that after the floor has been in service for a long period it actually improves with age. With this type of floor the future maintenance is simple, requiring only sweeping, either with hair broom, cotton mop or polishing machine. Damaged floors or extremely dirty floors can be cleaned or rewaxed if desired. Any manufacturer of this type of seal and finish can give you the proper method of preparation and application to assure the best future results.

Tile Floors

The types of flooring coming into more demand each day and providing a new maintenance challenge to us all are *(To page 39)*

Fig. 1. Light, coated-fabric sealed-seam suits.

NEW TRENDS IN

Here is a roundup of some of the recent developments in safety clothing to protect the bodies and legs of industrial workers.

FEATURE

This is the third of a series of five feature articles on Protective Clothing. The next two articles of the series will appear in the February and March issues of SAFETY MAINTENANCE & PRODUCTION.

THOSE persons whose livelihoods or interests lie in the safety field can take much personal satisfaction in the fact that their efforts are expended in the prevention of suffering. Aside from the humanitarian aspects of safety endeavor, it is also encouraging that safety is not static—it is not bound by a few rules made fifty, twenty-five, or even five years ago. Instead, safety has an ever-expanding horizon; it is dynamic.

This ability to meet the new demands of industry is clearly evident in the products made by safety equipment manufacturers. Laboratories and research organizations are continually at work trying to find ways not only to meet the new hazards of modern industry, but also to improve the products and equipment which are already shielding workers from the more traditional types of hazards.

It is probable that proof of this point is not required, but it may be of interest to review what has happened to protective clothing for industrial workers, especially for the protection of the body and legs, and to take a second look at some of the more recent developments.

The Hazards and the Materials

Some of the materials used for protective clothing, such as leather and asbestos, go far back in the history of man. Other materials, such as the plastics, have come into use only in our own era. The historical aspect is, however, of less importance than a knowledge of what is actually available today, and of which materials are best able to counteract particular hazards or combinations of hazards.

Asbestos offers protection against direct flame, sparks, hot-metal splash, and sustained radiant heat. Leather also guards against the milder heat hazards, such as sparks and spatter from molten metal. In addition, leather is a heavy-duty work protector for abrasion, flying chips and mild impact. Leather can also be reenforced with metal staples to give added protection against severe blows and sharp tools or surfaces. Another material which shields the wearer from flame, sparks and hot metal is fire-resistant duck.

Turning to another general classification of hazards, liquids and fine powders, we find an entirely different set of protective clothing materials. Rubber is the traditional material for protection against water, moisture, acids and alkalis. Natural rubber should be used in the handling of strong acids and alkalis, while synthetic rubber is the type suitable for oils and organic solvents.

Recent years have brought plastics into the field of safety clothing and this development is still continuing. Plastics vary a great deal in their ability to withstand specific chemicals, but in general it may be said that they are suitable for water, acids, alkalis, oils and solvents.

There are many types of coated fabrics suitable for protection against liquids. Essentially, the material consists of a fabric base for strength, impregnated or coated with some type of rubber or plastic. Whether or not they will be suitable for the handling of a parti-

Fig. 2. Safety clothing made from woven plastic-fiber. Material can also be coated.

BODY & LEG PROTECTION

Fig. 3. Stripes of luminous materials on clothing of outdoor workers reflect beams of headlights.

cular chemical or oil will depend on the exact type of rubber or plastic used. Traditionally, the fabric base has been a textile, but a fairly recent development has been the use of glass-fiber fabric for greater resistance to chemical action.

To round out the picture, it should be mentioned that certain grades of rubber insulate workers from electrical hazards, and that leaded rubber offers protection against x-rays and other radiations. For protection from sharp tools and edges, garments made from metal mesh may be worn.

The above is a general outline of the materials available up to about a year age. Since that time, there are some new additions to the list. These developments are concerned not only with new materials for specific hazards but also with the problem of acceptance by the worker. Many of the newer garments, either through the design or through the nature of the material itself, offer the wearer greater comfort and a more attractive appearance.

Consideration of the worker's acceptance or rejection of the clothing on personal grounds is a great step forward in the protective clothing industry. Unfortunately, however, this realistic approach cannot always be permitted. On many jobs, it will still be necessary to insist that the worker wear the traditional type of protective clothing, hot and uncomfortable though it may be.

Body and Leg Protection

Most of the clothing designed for the protection of the body and/or the legs is available in the various types of materials mentioned above. Aprons are made in waist and bib styles, the latter giving protection for the chest as well as the lower part of the body. There are also more specialized kinds of aprons such as the split-leg type which is divided and secured to each leg separately to permit more freedom of movement; the gutter type, which is turned up around the bottom to prevent liquids from dripping onto the legs and feet; and the kick-back type, which incorporates a fiber shield to protect the chest and waist areas against heavy blows.

For protection of the upper part of the body, a cape-sleeve may be worn, with or without a detachable bib which covers the chest and waist. The cape-sleeve itself has sleeves and shields the shoulder area, and is particularly useful for overhead work.

Where more protection for the body as a whole, including the back, is required, a coat of a suitable length and of a suitable material for the hazard may be worn. In general, industrial coats are available in hip-, knee-, and ankle-lengths. For even better shielding of the whole body, the coverall type of garment is recommended.

Fig. 4. Radiologist's uniform of spun lead-glass.

If the problem is one of full protection for the legs and lower body, overalls or pants of a suitable material may be satisfactory. If just the legs are involved, chaps or a hip legging may be adequate. There are also various types of knee-length leggings and spats when the hazard is confined to the ankle area.

In addition to the above, there are knee pads, fire-fighting suits, and waders of various kinds for more specialized jobs.

Recent Developments

In spite of the wide variety of materials and *(To page 34)*

Fig. 5. Snap-on knee pads.

Figure 1. The old system of drum storage at the East Pittsburgh Works of Westinghouse utilized tiers of racks. Drums had to be handled individually, with consequent hazardous working conditions resulting.

Drum Handling Made Safer

By G. L. STENBERG, Safety Supervisor
Feeder Division
Westinghouse Electric Corporation
East Pittsburgh, Pennsylvania

ONE of the fundamental rules of safety is that the best way to do a job is the safest way. This has been proved at the East Pittsburgh Works of the Westinghouse Electric Corporation, where the Feeder Division was faced with a handling problem in connection with the storage of large numbers of drums.

Prior to an analysis of the problem by the Division's Material Handling Committee, drum materials were stored in tiered racks, as illustrated in Figure 1. In order to remove a drum, it was necessary to roll it to the end of the rack and hook onto it with a crane. During this operation the workman was in a somewhat precarious position, and often at a dangerous height.

Under the present system, however, wood pallets are being used to store drum materials. A special drum pallet accommodates four drums laid flat, and is handled by a high-lift fork truck. See Figure 2.

Large quantities of drums can now be safely piled to a considerable height, thereby utilizing valuable storage space to the maximum degree, and, at the same time, eliminating lifting, rolling, or turning the drums by hand.

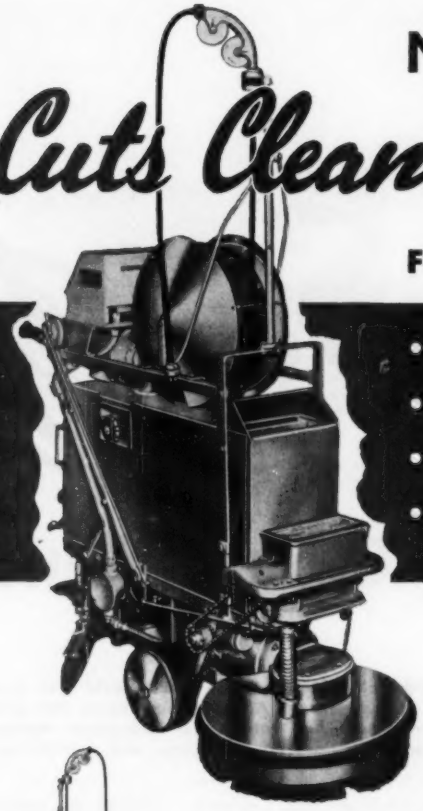
Experience has shown that safe handling, safe storage, and efficient operation can result from the palletizing of drum materials.

Figure 2. A special pallet which holds four drums can be handled by a high-lift fork truck. The handler is usually able to move two pallets at a time, making a total of eight drums.

NEW SCRUBBER-VAC

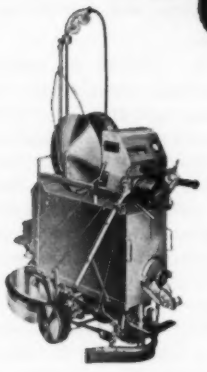
Cuts Cleaning Time 2/3

FOR SMALL-AREA FACTORIES



- Specially designed for buildings with 2,000 to 15,000 sq. ft. of floor space
- Applies the cleanser, scrubs, rinses, and picks up in ONE operation
- Also handles the dry work — steel-wooling, polishing, et cetera
- Can be leased or purchased (leasing budgets cleaning expense)

Now the labor-saving advantages of *combination-machine-scrubbing* are available to small as well as larger factories. The *new 418P Finnell Scrubber-Vac*, for small-area buildings with 2,000 to 15,000 sq. ft. of floor space, cleans floors in *approximately one-third the time* required with a conventional 15 or 18-inch scrubber-polisher using separate equipment for picking up. A *Finnell Scrubber-Vac* speeds cleaning by handling four operations in one! It applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor) — all in a single operation.



Of narrow design, the *new 418P Scrubber-Vac* also meets the need in larger factories for a combination machine that can be used in congested areas and narrow aisles. And all the refinements of *Finnell's* larger combination machines are embodied in this smaller unit (18-inch brush ring). Has new type of water valve that *assures* uniform flow of water . . . powerful vacuum for efficient pickup (performs *quietly*) . . . a *Finnell-developed* trouble-free clutch . . . self-winding cable reel . . . improved waterproof wiring and minimum electrical connections, simplifying the cleaning of the machine . . . G. E. Motors and Timken Bearings. The machine is self-propelled—operator merely *guides* it. Supplied with or without powder dispenser. Incidentally, it's good to know that when you choose *Finnell Equipment*, a *Finnell* man is readily available to help train your maintenance operators in its proper use.

SEE IT IN ACTION ON YOUR OWN FLOORS!

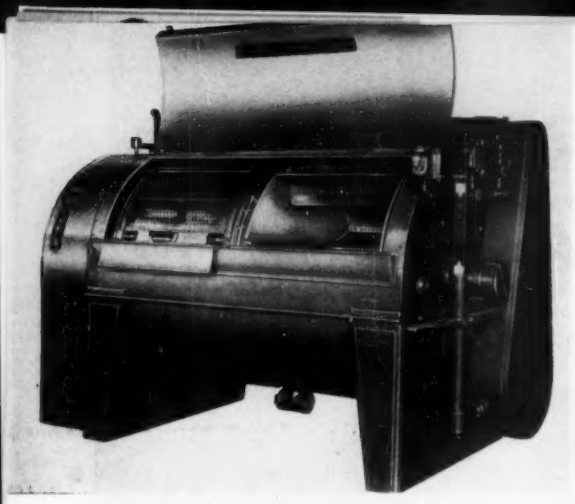
Find out what *you* would save with a *Finnell Scrubber-Vac*. *Finnell* makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 4101 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES



Modern type of dry cleaning washer is driven by its own motor. For safety, all moving parts are enclosed and safety switch is on cover.

Safety In the

By
BERNARD P. FRANK
Department of Industrial Engineering
Ohio State University
and
LESTER M. MERRITT, Industrial Hygiene Engineer
Division of Safety and Hygiene
The Industrial Commission of Ohio

Laundry and dry cleaning plant operators should take a second look at their own premises. A survey has shown that many of these establishments are wanting in adequate mechanical guarding, fire prevention, housekeeping, and ventilation.

THE laundry and dry cleaning plant is becoming more and more important in the economy of this country. As the plants become larger and as more employees are involved, management finds that their problems include safety and industrial hygiene along with many others.

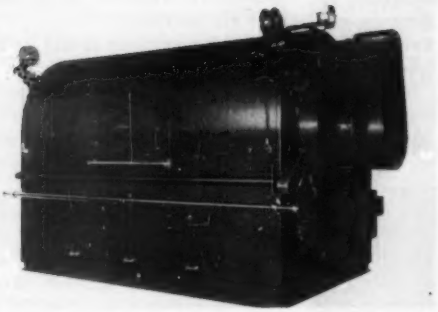
An accident can happen at any time in the laundry and dry cleaning plant because of unsafe mechanical features of the machinery unless precautions are taken to prevent it. Such an accident may only require medical attention, or it may cause the loss of time to the employee.

Ohio Industrial Commission's Bulletin #203, General Safety Standards for Workshops and Factories, specifies the safety requirements for all plants in that State. In addition to the above Code, the Ohio Industrial Commission has set up additional safety standards for laundries and dry cleaning plants in Bulletin #213, Specific Safety Requirements Covering Operations of and Conditions in Laundries, Dry Cleaning and Dyeing Establishments. Both of these are applicable to the laundries and dry cleaning plants in Ohio. The former specifies guarding required on stairs, floor openings, belts, gears, shafting, etc. The latter gives the regulations peculiar to the laundries and dry cleaning plants.

This paper was written as the result of a series of surveys made in twelve laundry and dry cleaning plants in the City of Columbus. These plants employ approximately 950 people and vary from 12 to 205 employees each. The dry cleaning plants use both naphtha (Stoddard Solvent) and synthetic solvents.

Dry cleaning equipment purchased today has almost every safety feature required, while many of these features are lacking in old machinery. Still, new equipment may be made unsafe in various ways. If an unguarded belt is used to connect the machine to a lineshaft, the machine will be operated under unsafe conditions. If the operator of the machine disconnects a safety feature, such as the interlocking device on the cover of an extractor, the machine becomes unsafe. Conditions such as these were found in many of the plants.

The two most common faults found in the plants visited were those explained in the preceding paragraph. Many plants operate all machinery from a common lineshaft. Very few of these belts were properly guarded. The second frequent hazard was one designed to speed up the operation of the extractor. If the cover interlocking device is made inoperative, it is possible for the operator to add clothes while the shell is spinning. Both of the above are specifically prohibited by the Codes previously mentioned.



This modern laundry tumbler has a self-contained motor. Here, too, all moving parts are enclosed and a safety switch is provided on the door.

Belt drives are eliminated by using suitable motors, as on this dry cleaning extractor. Enclosed machine has safety switch on cover.

Laundry and Dry Cleaning Plant

Fire Prevention

Fire prevention, which can be grouped into fire hazards and fire fighting, is a "must" in dry cleaning plants. Fire hazards include overloading of electric circuits, open circuits, poor handling of flammable solvents, and poor housekeeping. In several plants it was found that 110 V electrical lines had several more outlets than the designed load. Equipment such as fans, hand irons, etc., had been added without increasing the size of the line. Even fuses had been made inoperative. The switches, lights and motors were not of vapor-proof design in some of the plants where flammable solvents were used. Since naphtha vapor is heavier than air, it is most concentrated near the floor line where many motors are located. Under such conditions, a motor spark could set off an explosion.

The Dry Cleaning Code requires that flammable solvents, such as Stoddard Solvent, which has a flash point of 104° F, should be handled in a tight piping system except when clothes are transferred from a washing machine to an extractor. This is to prevent the spread of fumes. Yet it has been found in several plants that Stoddard was being collected in an open bucket from a defective drain faucet located at the base of the distiller. The solvent collected in the bucket was transferred to an extractor a distance of several feet so that it could drain to a storage tank located outside of the plant and underground. Such a condition produces a very dangerous fire hazard for even the spark from the heel of a shoe might set off a bucket of this solvent.

Good Housekeeping Necessary

Poor housekeeping can contribute greatly to the fire hazard. In some plants it was observed that employees have a habit of stowing papers, clothes and the like near hot steam pipes. This is specifically prohibited by the Code.

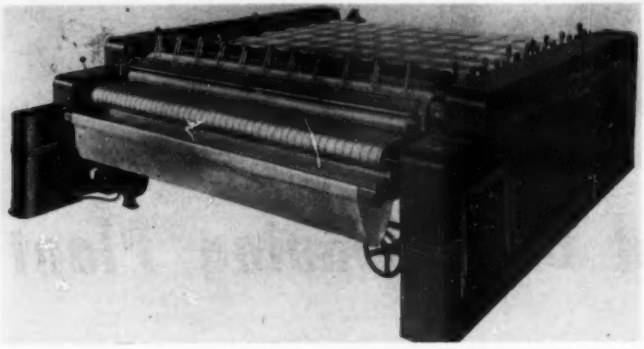
Smoking is prohibited in a dry cleaning plant by Code. Yet, in some plants this requirement is neglected and employees smoke whenever and wherever they please.

Fire fighting equipment must always be ready for use. The minimum amount of equipment necessary in a plant is specified in the Code. Such equipment is invaluable in controlling a fire until the Fire Department can take over. Improper storage of such equipment may prevent its being used at a time when it is most necessary. The space on the wall where fire fighting equipment is stored should be painted bright red so that it is easily seen. This was not the case in some plants. Some plant employees used fire fighting equipment as coat hangers. This should be definitely discouraged. All fire fighting equipment should be inspected at definite intervals so that it will be ready for use at a moment's notice.

Ventilation

Ventilation is a "must" in laundries and dry cleaning plants. In the laundry, the air becomes almost completely saturated with moisture if it is not replaced

regularly. In the dry cleaning plant, especially where a chlorinated hydrocarbon is used, the concentration of solvent will quickly surpass the maximum allowed unless the space is properly ventilated. In some plants, portable fans are used to move air from one part of the room to another, to produce a cooling effect on the individual. This practice has the disadvantage of producing a greater evaporation rate of the solvent. The Code requires that the air should be changed once every three minutes for good working conditions. Only one of the plants visited used a hygrometer to check the relative humidity of the air in the plant.



Modern laundry flatwork ironer with controls on both sides of machine and with overload stop

A gas-concentration analyzer was used to determine the concentration of solvent in plants using carbon tetrachloride and perchlorethylene. The maximum allowable concentration of carbon tetrachloride is 100 parts per million and of perchlorethylene 200 parts per million by volume. Recent experience with carbon tetrachloride indicates that the concentration should be reduced to 50 or even 35 parts per million. Either of these solvents, if inhaled in sufficient quantities will produce death. High concentrations of carbon tetrachloride were found in one plant. Recommendations were made that immediate repairs be effected to the equipment and that additional exhaust ventilation be added so as to decrease the amount getting into the atmosphere.

Twelve plants were recently surveyed and rated for Mechanical Guarding, Fire Prevention, Housekeeping, and Ventilation. As far as mechanical guarding is concerned, nine of the twelve plants had a satisfactory condition and three unsatisfactory. In fire prevention, eleven of the twelve were satisfactory. In housekeeping, seven were satisfactory, while in ventilation, only four had what was considered to be a satisfactory condition. One plant was satisfactory only in fire prevention.

All of the plants visited were receptive to a survey of this type as they were interested in having an impartial comparison of their condition with that considered to be in accordance with the Code.

The following recommendations are made to the industry as a whole:

1. All machinery should be equipped with the required safety devices and these devices should be inspected regularly to see that they are operative;

2. All employees should be instructed in the proper operation of their machines. This instruction should include safety features of the machine, how they work and why the machine is equipped with them;

3. All open belt drives should be enclosed in guards from the floor to not less than six (6) feet above the floor. In addition, in exceptional places where it might be possible to have a person get into an open belt above six feet from the floor, that belt should be guarded;

4. All electrical circuits and motors should be fully insulated and vapor-proofed in places where highly volatile and combustible solvents are used;

5. Plants should be inspected periodically by the management to check for overloading electrical circuits;

6. Volatile solvents, such as Stoddard, should be enclosed at all times so that there is no chance for their being ignited by a spark or any other form of fire;

7. All fire fighting equipment should be stored properly at well established stations and painted bright red;

8. There should be enough forced ventilation to produce a change of air in the building once every three minutes;

9. An hygrometer should be read once every hour in the cleaning room to indicate if the relative humidity is above 60%, which should be maintained;

10. In those plants using carbon tetrachloride, perchlorethylene or other chlorinated hydrocarbons, the necessary equipment should be obtained to check the concentration of solvent in the air periodically so that it will not exceed a safe limit.

Get the New Year Off to a SAFE Start

See pages:

62—Free Bulletins & Catalogs

63-66—What's New

72—Check List of Advertised Products

Pictures by courtesy of The American Laundry Machinery Co.

How Fireproof Is "Fireproof"?

SEVEN hundred and sixty-four lives were lost and $25,000,000 property damage was caused in 32 fires in fire-resistive buildings since 1940, according to a recent study by the National Fire Protection Association's Department of Fire Record. Of the 764 fatalities, 35 occurred in manufacturing plants, 22 in warehouses, 32 in office buildings, 180 in hotels, 3 in a hangar and 492 in a night club.

The National Fire Protection Association has published the results of this study in pamphlet form to refute the all too common false belief that "fireproof" buildings are immune to serious fires. Emphasizing the major contribution made by fire-resistive construction toward life safety and reduction of property damage from fire, the study points out however that fire-resistive construction is only one of several indispensable features of building design and protection that together make a building fire-safe.

Quoting from the pamphlet, "What does fire-resistive construction not do? It does not prevent fires—accomplished by a fire prevention program for employees. It does not detect fires—accomplished by trained watchmen, alert employees, and automatic detection equipment. It does not guarantee the safe evacuation of the occupants—accomplished by adequate exits for safe escape from any part of the building. It does not limit fire spread—accomplished by fire divisions and fire partitions with all openings protected. It does not prevent vertical spread of fire—accomplished by enclosure of stairways, elevator shafts and other vertical openings. It does not prevent explosion damage—accomplished by facilities for explosion venting. It does not prevent exposure from fire from involving the contents of a fire-resistive building—accomplished by fire doors, shutters, outside sprinklers, wired-glass windows and removal of serious exposure hazards; and fire-resistive construction does not extinguish fires—accomplished by automatic sprinklers, fire extinguishers, special fire extinguishing equipment and private and public fire departments."

In the pamphlet extensive use of pictures has been made of fires and explosions occurring since 1940 in fire-resistive buildings with the factors responsible for the extensive damage indicated in each instance in the caption. Single copies of the pamphlet are available at fifty cents from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.

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MOREOVER, PRODUCTION, SALES...YES...OUR ENTIRE BUSINESS STRUCTURE DEPENDS ON THE PROTECTION OF OUR WORKERS! MILLIONS OF DOLLARS ARE LOST EVERY YEAR BY INDUSTRIAL ACCIDENTS WHICH CAN BE AVOIDED BY PROPER PRECAUTIONS! NOTHING IS TOO GOOD FOR OUR WORKERS, NO MATTER WHAT THE COST! THEY'RE ENTITLED TO PROPER LIGHTING... CLEAN, AIRY, SANITARY FACTORIES AND EVERY CONCEIVABLE DEVICE TO PROTECT THEM AGAINST INJURY! FURTHERMORE...BLA...BLA...BLA...BLA...
BUT.....WHEN LUCIUS IS BACK AT THE PLANT... OH, WELL! IT'S A HORSE OF A DIFFERENT COLOR!
WE'VE HAD TOO MANY ACCIDENTS LATELY, CHIEF! IF OUR WORKERS HAD THE RIGHT SAFETY EQUIPMENT, IT WOULD HELP CONSIDERABLY!
FORGET THAT NONSENSE! THOSE SILLY CONTRAPTIONS SLOW UP PRODUCTION! I'M NOT FALLING FOR THAT BUNK!
Thanks for the theme---
Subscriber:
G.G. FLEMING, SAFETY ENGINEER-N.Y.

INVITATION: Readers sending in usable ideas for these cartoons will receive acknowledgment for them in the magazine and will be given the original cartoon-drawing with our compliments.

TRANSPORTATION

Fleet Maintenance and Officers Courses

THE Pennsylvania State College will conduct its Sixth Annual Course for Maintenance Supervisors during the week of February 26–March 2, 1951. The course, specifically designed for maintenance superintendents, supervisors, shop foremen, senior mechanics and small fleet owners, will be conducted on the Penn State Campus at State College, Pennsylvania.

Speakers will be representatives of vehicle and vehicle manufacturers and of nationally known fleets. Some of the major topics to be discussed are vehicle selection; planning the maintenance program; minimum maintenance requirements for the various units of the vehicle; effective use of space and equipment; duties, responsibilities and qualifications of the maintenance supervisor; selecting the shop employee; and training the shop employee.

Additional information about the course can be obtained by writing Professor Amos E. Neyhart, Administrative Head, Institute of Public Safety, The Pennsylvania State College, State College, Pennsylvania.

The 11th Annual Traffic Officers Training School will also be conducted at The Pennsylvania State College, State College, Pennsylvania from April 30 to May 11, 1951.

The School has been planned to meet the needs of the present day traffic conditions. Either recruits or experienced men may attend. Some of the topics to be discussed are: Pennsylvania Vehicle Code; Relationship with Minor Judiciary, Courts, and District Attorney; Case Preparation; Local Police Training; Accident Investigation; Regulations Concerning Signs, Signals and Markings; Enforcement Policy and Tactics; and Dealing with the Public. Additional information can be obtained by writing Course Co-ordinator, Institute of Public Safety, The Pennsylvania State College, State College, Pennsylvania.

Ozone Generators in Garages Add New Hazard

NOT only are ozone generators in garages of dubious practical effect in reducing carbon monoxide concentrations, but an investigation of 19 garages in Pennsylvania indicates that the use of ozone generators introduces another toxic gas into the garage air in potentially harmful concentrations—so reports a recent issue of "The Industrial Hygiene Newsletter" published by the Public Health Service.

The Bureau of Industrial Hygiene of the Pennsylvania Department of Health made an investigation of ozone generators in garages of a 12-county area in the state. Nineteen garages where 27 ozone generators were installed were investigated. Employees of the garages were interviewed and many of the mechanics exposed to ozone complained of headache, nervousness, and nausea. Others stated that they had undue irritation of the nose and throat when the ozone generators were in use and these symptoms were experienced in a somewhat greater degree by the investigators.

The amount of ozone which may be safely inhaled over an 8-hour daily work period is generally accepted by authorities to be one part per million parts of air. It was found that concentrations in excess of this amount were present in 15 of the 19 garages investigated. Samples were taken with an absorption train arranged to pass the air through scrubbers consisting of potassium dichromate and potassium permanganate solutions by means of fritted-glass bubblers, the ozone being collected in a buffered standardized potassium iodide solution. Ozone was determined by titration with standard sodium thiosulfate solution, using starch as an indicator. Samples were collected at rates varying from ½ to 1 liter of air per minute and volumes of air per sample were from 50 to 100 liters. A total of 83 samples were collected and analyzed for ozone with 46 of these being in excess of, and eight slightly under, the safe limit.

Safety and Courtesy Contest Winners

PRESENTATION of two Trailmobile Trophies by The Trailmobile Company, Cincinnati, to the 1950 winners of national safety and courtesy contests conducted by the American Trucking Associations, Inc., featured the recent annual A.T.A. convention in New York City.

William A. Burns, Jr., vice president and general sales manager of The Trailmobile Company, presented the Trailmobile Tank Truck-Trailer Trophy to the Ruan Transport Corporation, of Des Moines, Iowa, for outstanding service in advancing the cause of safety for the general public on streets and highways. The trophy was accepted for the Ruan Corporation by John Ruan, president and treasurer. National Tank Truck Carriers, Inc. joined with the A.T.A. in directing the contest.

The A.T.A.-Trailmobile Safety Trophy contest was won by Pacific

Intermountain Express, of Oakland, Calif. and the Trailmobile Trophy was presented to C. E. Johnson, vice president and general manager of PIE, by Leland James, president of the A.T.S. and of Consolidated Freightways, Inc. of Portland, Ore. PIE also received various A.T.A. awards for records made in the various mileage divisions in which it operates.

In awarding the Trailmobile Trophy to the Ruan Transport Corporation, Mr. Burns said:

"The winner of the Trailmobile Trophy this year has a record of which it may be proud. Three of the drivers for this company were named 'Driver of the Month' in the states in which they operate, and one of them was named state 'Driver of the Year' for his heroic action in pulling an injured man from a burning car, disregarding burns that he, himself, suffered in doing this.

"In addition to achieving a remarkable safety record with the vehicles of the company, they have performed an outstanding service in advancing the cause of safety in general."

More Sleep, Less Accidents

A DRIVER who sleeps seven hours or less a night is inviting a traffic accident. That warning was made at the 63rd annual convention of the American Institute of Laundering by Dr. W. A. Eggert. His findings were based on a year's survey of laundry supply routemen and salesmen.

Accident free drivers in this group, Eggert said, average eight hours or more sleep per night and use nothing but coffee to keep themselves alert at the wheel. On the other hand, Eggert said, accident prone drivers—those consistently involved in accidents—are likely to average seven hours or less of sleep per night. "They do not hesitate to use strong stimulants to keep from falling asleep at the wheel," he added.

Eggert told the institute that his study showed 50.3 per cent of the drivers surveyed caused all the accidents in the group. Slightly more than 12 per cent of the drivers caused 42.7 per cent of the accidents and 3.8 per cent of the drivers caused 18.1 per cent of the accidents.

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Never Excelled
SAF-I-SHIELD
• Fits over personal glasses
• Comfortable
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• Made of Optilite ®
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• Low cost
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SAF-I-SPEC
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• Instant snap-on temples (lens inter.-changeable with SAF-I-DUO)
• Genuine comfort
• Rugged—tough
• Optically correct
• Low Cost
• Made of Optilite
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• Replaceable, inter-changeable lens (lens inter-changeable with SAF-I-SPEC)
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Modern Liquid Lens Cleaner for Glass and Plastic

NEW Large Size K-LENS-M Handy Molded-Shape Bottle. Holds 42% More K-LENS-M. Economical—fewer refillings. Hundreds of Film-Free Cleanings.

K-LENS-M liquid lens cleaner gets eyeglasses and goggles clean for clear vision . . . so important to safety.

K-LENS-M does the job faster, at lower cost, and with less maintenance. Thoroughly cleans glass or plastic eyewear without scratching, streaking, or leaving a film.

The K-LENS-M Dispenser Cabinet is a complete lens cleaning unit, specially designed for easy installation, use, and service.

Ask for the K-LENS-M folder—full information to help you save money on eyewear cleaning.

K-LENS-M Dispenser Cabinet

Complete Lens Cleaning Station

Finger-Tip Spray Dispenser—
No air pressure needed.
Dispenses Tissues—one at a time.
Disposal Space for used tissues.
Special Paint Grip Steel Cabinet.
Acid-Resistant Baked Enamel Finish.

THE WILKINS CO.
INCORPORATED
CORTLAND 2, N. Y.

Write For Free Sample of K-LENS-M

Body & Leg Protection

(From page 25) types of industrial protective clothing, it must be admitted that there is occasionally a problem of employee acceptance of these garments, which, by their very nature, must be heavy and cumbersome. The trend during the past year, however, has been to recognize this fact and try to do something about it. Some of the most notable advances have been made in clothing materials for workers exposed to water and other liquids.

★

The production of a waterproof fabric which actually "breathes" off water vapor, thus eliminating the excessive sweating and resultant chilling experienced in conventional waterproof materials, has recently been announced. The material is the result of several years' study by the Chemicals and Plastics Division of The Quartermaster Research laboratories, and a leading commercial laboratory.

Potential uses for the fabric are rainwear, sports jackets, industrial coveralls, aprons and utility garments, hospital sheeting, hunting coats, snow suits and the like, in which heat buildup and perspiration are excessive when present waterproof materials are used.

The textile, preferably cotton, is coated on one or both sides with a specially developed coating compound containing an oil resistant synthetic rubber. Rayon and other synthetics may be coated with excellent results, too.

The trick of having the material shed water and at the same time pass off water vapor is accomplished by making the coated textile microporous, with as high as 2½ million holes per square inch—so tiny that the surface tension of the water falling upon the material prohibits the liquid from passing through.

At the same time, these pores are sufficiently large to transmit readily the vapors given off by the body. This vapor, when held within a conventional waterproof garment, results in a concentration of body heat, excessive sweating and consequent chilling.

A small addition of wax in the rubber compound adds to the water repellent qualities, causing droplets of water to bunch up, much as the liquid does when spilled on an oil or gas moistened platform or floor.

Military authorities realized that their operations must proceed regardless of the weather, and readily recognized the increase in comfort and efficiency that could be possible in inclement weather by the development of a water impermeable water-vapor permeable garment. Exhaustive tests were undertaken by the Quartermaster Research and other laboratories, with clinical tests on personnel conducted at the University of In-

diana Medical school, as well as in military establishments.

The resultant protective fabric has excellent flexibility, flex resistance, aging resistance and abrasion resistance. In addition, the material may be either washed or dry cleaned; the coating not being affected by cleaning solvents. A wide acceptance of the material is seen as a hospital sheeting item, as well as for coveralls and aprons for use in industries where workers are in almost constant contact with water or other liquids.

Another newly developed fabric, which is suitable for chemical workers' clothing, has the psychological advantage of light weight. A new synthetic compound is used to impregnate the fibers of the textile base, and is said to offer resistance to a wide range of chemicals, including, with a special treatment, anhydrous hydrogen fluoride. In addition, the compound can be used to seal the seams of the garment, making the surface impervious to chemical seepage. (See Figure 1.)

Plastic Yarn Fabric

Many of the plastics are noted for their resistance to chemical action. A unique development of the past year is to use a certain plastic, not as a sheeted material or as a coating for a textile base, but as a yarn from which to weave a fabric. Industrial clothing made from this plastic-yarn fabric offers resistance to destructive chemicals at concentrations widely used in industry because the fiber of the material itself is resistant.

In a series of laboratory tests, samples of the fabric were immersed in twenty-six chemical reagents for twenty hours. The fabrics were conditioned for four hours at 65% relative humidity and 70 degrees F. before testing. Tested by the strip method, each sample was stripped to one inch or seventy-six ends in the warp and twenty-four picks in the filling. After treatment, each was broken in a tensile testing machine. Shrinkage, deterioration and

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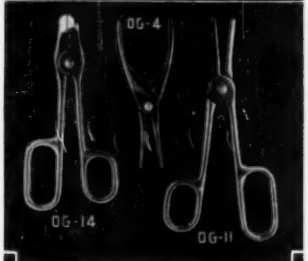

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changes in physical appearance of sixty-eight samples were determined. Results at various temperatures and concentrations are said to have showed no shrinkage and no appreciable change in pliability, even after the twenty-hour immersion in such reagents as concentrated hydrofluoric acid, 30% nitric acid at 80 degrees C, 85% phosphoric acid at 100 degrees, 70% sulfuric acid at 50 degrees, and 50% sodium hydroxide at 100 degrees.

Also of interest from an economy point of view is the fact that clothing made from this plastic fabric has reportedly withstood more than sixty-five hours of continuous commercial laundering in the highest caustic soap concentrations used in laundries. Greases and waxes can be removed safely from the clothing with solvents and laundering caustics that destroy cotton or wool clothing. In addition to laboratory coats, bib aprons, coveralls, and jackets, matched shirts and trousers are also being made from this new type of material.

A similar line of woven plastic-fiber clothing is available from another safety clothing manufacturer. The results of complete laboratory tests with various chemicals are the same as for the previous line of clothing. This manufacturer, however, has used plastic fiber to produce three types of fabric material.

The first is a closely woven twill type of material which resembles silk in looks and feel. A second type forms a worsted wool-like finish. Both fabrics are light-weight, and, because of the minute air spaces between the threads, offer greater coolness and comfort to the wearer. Woven fabrics of these types are suitable for exposure to the fumes of acids, caustics, oils and solvents.

Where there is a more serious hazard of direct contact with quantities of dangerous chemicals, a third type of plastic-fiber fabric clothing, made by this company, offers better protection. In this type, the basic woven-plastic fabric has been coated with nonporous plastic material. The resulting garment is light in weight and only slightly less flexible. Most important, however, is that it offers protection against direct splashes of chemicals. All of the above three types of materials are available as shirts, trousers, laboratory coats, coveralls, overalls, jackets, aprons, and sleeves. (See Figure 2.) The garments are sewn with thread made of the same plastic fiber. The manufacturer warns that clothing of these materials should be laundered and not dry cleaned.

Visibility at Night

A completely different type of recent development is the use of stripes or patches of luminous materials on the protective clothing of persons working out of doors at night, such as public utility employees, railroad yardmen, construction workers, police and fire departments and emergency crews.

The luminous materials will reflect the beams of floodlights, making the wearer highly visible; and since the garments, so treated, are of the water-proof kind, they are particularly valuable during storms when rain reduces the visibility.

One company is making available with luminous stripings several models of two-piece lineman's suits of a light-weight water-proof fabric, and also meter reader's raincoats, in both cape and regular styles. Another company offers its complete line of plastic and plastic-coated fabric protective clothing with a similar luminescent striping to reflect the light of approaching vehicles or moving equipment. Included in the line are two-piece suits, overalls, coveralls, jackets, coats, cape sleeves, rain coats and capes, and slacks. (See Figure 3)

Radiation Protection

It is not surprising that there should be an increasing interest in the problem of protection against radiation. The tendency has been to use disposable types of clothing for technicians in radio-chemical laboratories. In the more dangerous operations, however, protective clothing made from leaded rubber may be worn, and these types of garments have been used by x-ray technicians for many years.

It has been found that there is a much higher percentage of leukemia among radiologists than among physicians in general. Some authorities feel that this condition is the result of scattered radiation, built up over a long period of time. Most radiologists wear protective aprons, but there may be exposure of the arms, shoulders and lower legs to scattered radiation.

In order to overcome the problem, a new type of uniform has been designed for technicians, covering the arms, shoulders, and whole body. (See Figure 4) It has the advantage of light weight since it is made from a new material, spun lead-glass woven into a fabric. The material offers pro-

(Continued next page)

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tection against x-rays and beta radiation.

Knee Pads

Construction workers, floor layers, maintenance men and others who are required to work in a kneeling position have blessed the day when knee pads were invented. Recently there has been a new development which should increase the worker's comfort even more. This knee pad utilizes snap fasteners to secure the detachable sponge-rubber pads and eliminate binding. A thermoplastic-backed cloth with four snap fasteners is applied directly to the knee area of the work pants or overalls. By pressing the cloth with a hot iron, the plastic on the cloth melts and fuses to the clothing fabric.

The knee pad itself is equipped with the four corresponding parts of the fasteners and can be snapped in place whenever work in rough or damp places is required or when a kneeling position must be maintained for a considerable period of time. (See Figure 5)

Outlined above are some innovations of the past few months in protection of the bodies and legs of industrial workers. They are indicative of not only the changes in this one aspect of protective clothing but also of the advancements made in the whole safety field. Equally important developments have been made in safety eyewear, gloves and hand protectors, fire extinguishment, sanitation and maintenance products, etc. It is the responsibility of every person concerned with accident prevention to keep abreast of these changes so that the best possible form of protection may be provided for the industrial worker. This applies to the future as well as the present, and eyes should be kept open for other innovations which are certainly on the way—"certainly," because the dynamic force of safety work is forever expanding and improving itself.

Pictures by courtesy of the following companies: Figure 1—Standard Safety Equipment Co.; Figures 2 & 3—The Milburn Co.; Figure 4—Bar-Ray Products, Inc.; Figure 5—The Safe-Nee Co.

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Pressure Gage Safety

THERE appeared in the September, 1950, issue of this publication an illustrated article under the title "Pressure Gages Can Explode," at the top of which a reproduction of a newspaper clipping was used describing an injury resulting from the explosion of an oxygen gage.

The article has received widespread attention because of certain controversial statements appearing therein and because of incorrect inferences of a possible tie-in between the newspaper illustration and the text.

Obviously, the use of the newspaper clipping detailing an actual injury is a device often used merely to attract reader interest, and any conclusions to the contrary should not be drawn.

The text of the article was not intended to boost the sale of any specific gage since solid front gages and other protective devices are available from many gage manufacturers whose industry, in general, has been in the forefront of the movement to recommend suitable designs where hazards exist.

The potential hazard of exploded or ruptured bourdon tubes can be very serious and therefore the solid front construction, available from the leading pressure-safety appliance manufacturers, provides a high degree of protection for the user.

Fortunately, there has been a growing emphasis upon accident prevention on the part of gage manufacturers as well as users because special service applications in certain industries involve higher pressures, among other factors.

In many plants, however, it is not feasible to replace thousands of gages already installed. For that reason, some manufacturers have made available safety devices easily installed in existing gages designed to help prevent the possibility of accidental injury.

In the last analysis, however, the solid front pressure gage, available on the general market, affords the greatest possible protection, and any inference that the September article was intended as an adverse criticism of other reputable manufacturers or disparagement of their devices is an error.

FOR PROTECTION IN SPORTS

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Floor Care

(From page 23) asphalt, rubber and plastic floor tiling. Inasmuch as all three of these, in our judgment, require the same type of preparation and care we will handle them as a class, but bear in mind the resulting appearance is not only determined by maintenance care but by the basic flooring you are working with.

The recommended method of caring for these three types of floor tiling is with a no-buffing water emulsion type of wax, as this has proven to be the most practical, safe and economical. Rubber and plastic type flooring will require two coats but as asphalt tile is not a highly resilient type of floor we recommend carrying a heavy body of wax on the surface; thus the original application should be made with three coats rather than two, a procedure which will increase the resilience and reduce slip hazard.

A recommended procedure for preparation of new and good condition floors is as follows: Floors should be scrubbed and thoroughly

Is Your Plant One of the 16,000 Communities Protected by Modern Resuscitators?

"Every major fire department in the country uses resuscitators except one", says the SATURDAY EVENING POST on page 59 of the June 24, 1950 issue.

Daily throughout the country these automatic positive-and-negative breathing machines are bringing victims "back from the brink".

Auto accidents
Smoke suffocation
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cleaned using an approved type cleaner, dilution depending upon condition of floor and type dirt present. After scrubbing operation, rinse, using clean water, and allow to dry. Apply two or three coats of wax. If higher luster is desired, last coat may be polished when dry.

Future maintenance of floors as finished above may be handled as follows: Surface dirt or scuff marks can be removed with stiff brush, dry mop, or polishing machine. For rewaxing: If floor is not badly damaged, merely damp mop with clean water and apply one coat of wax. If floor is extremely dirty and worn, scrub and rinse, removing bad condition, and when dry apply one or two coats of wax depending upon the amount of original wax removed.

The interval elapsing before the above operation will need repeating will depend upon traffic, condition of floor and the job done. During the interim, the floors should be swept daily, preferably with a wide dry cotton mop.

The same rules and procedure as listed above for tiling of asphalt, rubber or plastic will apply to linoleum floors.

Following are a few practical hints that help cut upkeep costs. When your floor is finished with wax it has three great advantages over unwaxed floors: (1) It is lustrous, bright and much more attractive; (2) It is protected against wear—the wax takes the punishment; (3) It is smooth and dry—dust won't stick, thus it is easier to clean and keep clean. If you follow the few practical suggestions listed here you will keep floors in top condition at minimum expense.

Sweeping—Sweep floors daily with a hair broom or wide dry cotton mop (preferably the latter) to remove dirt and grit which might be ground into the finish if left too long. Do not use an oily mop which may leave a sticky film to catch dust.

Mopping—If the accumulation of dirt is so heavy that sweeping won't remove it, mop floor with a cotton mop dampened with cold water. Do not flood the floor or use a dripping mop.

Polishing—Use an electric floor polisher from time to time to polish heavy traffic areas and remove scuff marks. This will keep floors lustrous and help to blend touch-up spots in with the original wax film on the floor. The luster of the wax will be brightened by this polishing.

Touching Up—If floor is protected with traffic wax and you wish to remove any spots or stains, apply a little liquid traffic wax and buff. Use traffic wax to touch up spots where severe traffic has worn down the wax film. If floor is protected with a non-buffing wax, it can be used to touch up worn spots. It is not necessary to rewax the whole floor.

Removing Old Wax—It is good practice to remove old wax entirely at rate intervals to prepare for a complete rewaxing. Frequency of removal of the wax film will vary from floor to floor depending on the amount of wear and the general

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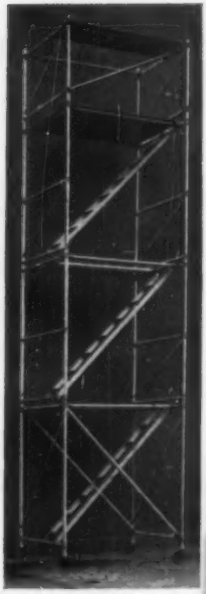

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appearance of the floor.

Re-Waxing—After removing old film apply an even coat of traffic wax or the non-buffing type. Traffic wax usually contains a mild cleaning agent; it cleans as it renews the wax finish. *Do not* use traffic wax on rubber or asphalt tile floors.

Faded, Bleeding or Discolored—Thoroughly clean with acetic acid cleaner (vinegar), diluted 1 part cleaner to 8 parts water. Rinse with clean water after cleaning operation. Rinse again, using 1 part acetic-acid (vinegar) to the gallon of water. When dry, apply 2 or 3 coats of wax.

Here are a few "Don'ts" if you wish to help your maintenance work:

1. Don't apply wax in a heavy coat. A thin, even coat does the best job.
2. Don't use an oily sweeping compound or mop. Wax is smooth and dry, while oil leaves a sticky finish. The use of oil defeats the purpose of wax finish.
3. Don't polish either traffic or non-buffing waxes until thoroughly dry (20 to 30 minutes after applying in most cases).
4. Don't let the wax film wear through in heavy traffic spots. Touch up these spots *before* the wax is worn away to protect your flooring investment.
5. Don't allow wax to "pile up" in light traffic areas around the edges of the room and under furniture, etc. Remove these accumulations when they occur with an approved and tested floor cleaner. Then rewax.
6. Don't use strong highly alkaline cleaners or powders on your floors.
7. Don't use traffic wax or paste wax on rubber or asphalt tile.

Before closing there is one subject which, in our judgment, applies to all cleaning, yet little thought is given to it: "Pre-Mix—A Sub-Assembly." Premix is *not* a meaningless paraphrase; premix is a dynamic means of practical working value that is essential to a high standard, efficiently administered maintenance operation.

Those, pursuing the maintenance field as a technically advancing profession, are to a degree guardians of the public health. Why have we failed, then, to accept and incorporate the premix principles that are so effectively practiced in the food and pharmaceutical industries? Although this premix technique can be applied to many items or phases of general maintenance, the indisputable advantages gained by utilization of it can be illustrated in the specific example of a liquid floor cleaner.

Three prime benefits are possible to accrue by premixing—economy, attainment of job standards, and insurance.

Economy of Pre-mix

Economy can be effected because of the following reasons: Strategic placement of premixed cleaning solutions saves time in mixing and

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HOFFCO-VAC
Portable
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handling. This practice saves many hours of labor that are not productive of the maximum possible work output by personnel because of unproductive time expended in frequent or daily mixing and carting of cleaning solutions. A large quantity can be mixed in the same time that a small quantity can be premixed.

Premixing guarantees proper strength of cleaning solutions thereby assuring consistent ease of cleaning for the specific condition. Certain floor areas or types of floors can be classified, maximum and minimum dilutions determined and mixed, and certain persons assigned to maintain the respective type of floor. This develops a routine procedure for every type of floor to be maintained. The person assigned to a certain class of floor becomes a specialist. Time is saved by this practice through premix.

Training of personnel is simplified because the responsibility for premixing is vested in supervision. Large corporations can readily shift and transfer personnel without a refresher or training period. Frequent drawing of supplies from the main store room is eliminated.

Job Standards

The second benefit, attainment of job standards, as is outlined in our plant by the use of standard operating procedures, is definitely within your reach through premix. Uniformity of job performance to predetermined standards is possible to a greater degree with premix. Inspection control by supervision is facilitated and trouble spots or heavily trafficked areas are more effectively attended to. Uniformity of expected results can be more easily judged.

Insurance, the third major benefit, is available by employing premix. Prevention of damage to finished surfaces is assured. Determination of noninjurious dilutions is developed by pretesting on specific floors. Possibility of damage to floors by injurious, corrosive action of the cleaner is eliminated, thereby lengthening the service life and beautifying the appearance of the floor.

Floor cleaning with a premixed solution, then, can do this for you in other phases of your maintenance and sanitation department: Material can be conserved, stock inventories reduced, theft of base cleaner concentrates is eliminated, a self-policing stock control is established, training and evaluation of personnel is simplified and expedited, job assignments can be classified and grouped, it lends itself to a more clearly defined standard operating procedure, actual cleaning is easier, insurance is provided against damaged surfaces, supervision and inspection control is simplified, attainment of high standard of maintenance is assured, and finally, economy and cost control are the increments gained.

These advantages with their potentialities are made available through premix. This new type of production sub-assemlby will aid maintenance. Premix and produce!

From an address presented at the First Plant Maintenance Conference.

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Electrical Accidents

(From page 15) not quite that easy, but that's the general idea of the method of testing high voltage wire outlined for the electrical equipment section by Clifton N. Fogg, safety engineer of the Simplex Wire and Cable Co., Cambridge, Mass.

Of course, the testing method explained by Mr. Fogg calls for the application of voltage of various intensities while the reels of wire are in a tank of water and the observance of necessary precautions to insure the safety of men conducting the test.

The presentation on insulating materials also included a demonstration by Roy Nelson, Chicago area field engineer for the Simplex company, of electrical properties of such materials. During his demonstration, Mr. Nelson cautioned against the use of insulating tape of inferior quality. He urged electricians to make every effort to make their jobs perfect.

W. R. Blewett, manufacturing staff assistant of the Westinghouse Electric Co., discussed the operation of radio-frequency generators.

"Electrical accidents," he declared, "are most frequently caused by haste or by inattentiveness on the part of the operator or maintenance personnel. Haste can undo any and all precautions. Personnel should be trained and reminded continually to think before acting."

Mr. Blewett urged that operators of electrical equipment receive detailed instruction on how to do their jobs properly. He urged the use of all educational means possible to get the message across to the employee.

New Du Pont Safety Head

MR. J. S. QUEENER has been appointed Manager of the Safety and Fire Protection Division of E. I. Du Pont de Nemours & Co. to succeed H. L. Miner whose retirement was announced recently.

Mr. Queener has been with the Du Pont Company for more than 20 years, serving at their rayon plant in Tennessee, in Memphis during construction of a powder plant and in Washington in the Company's personnel division. In early 1949, he was appointed general assistant safety manager of the Du Pont Safety and Fire Protection Division of which he is now the head.

Mr. Queener is a native of Nashville, and by education as a bachelor of science in civil engineering, University of Tennessee, as well as practical experience, he brings to his new duties outstanding qualities of leadership.

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The Respirator That is U.S.B. of M. Approved for Type A Dusts

Guards against pneumoconiosis and silicosis producing dusts. Has over 40 sq. in. twin filter area. Sanitary face cloth. Soft rubber face mask. "Controlled breathing" valves. Wearer has a panorama view with no blind spots. Unusual rubber, felt and plastic construction makes it extra durable, no denting or bending possible. Efficiency remains unimpaired even after rough treatment.

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Double filters provide easy breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Has patented DUPOR valves for "controlled breathing," and panorama view without blind spots. A prime favorite for years!

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For the best in eye protection get H. S. Cover's Gas-Tight, Fog-Proof Goggles.. $1.85 pp.

H. S. COVER, South Bend, Ind.

What's New in Safety Maintenance See Pages 63–66

Learning — The Hard Way

BROKEN RULE . . . BROKEN LEG

AN auto mechanic suffered a broken leg recently when he fell off a platform while washing a truck. This man had frequently worked in the wash rack and was well versed in all phases of the work. At the time of the accident he was on the wash-rack catwalk, hosing down a 21-foot truck. As is a common practice in this type of operation, he was backing up while hosing down. While still walking backward, he stepped off the end of the catwalk. The accident could have been avoided by simply spotting the truck in the center of the wash rack. Had this been done, the man would have had ample room to wash the truck without backing off the catwalk. Accidents of this type point up the necessity for continuous supervision to prevent the development of unsafe work habits or conditions.

MANHOLE COVER CRUSHES TOE

A SHIPYARD employee, while attempting to replace a 100-pound manhole cover, received a crushed toe when the cover dropped on his foot. Here there was a series of conditions, all contributing to the accident. First, help should have been obtained before attempting to lift the manhole cover, whose weight and shape makes moving awkward. Also, the proper handling tools, which were available, should have been utilized. Of course, it goes without saying that a pair of inexpensive, comfortable safety shoes could have prevented this incident from developing into a lost-time accident.

TWIST OF THE WRIST

A RAILROAD engineman recently suffered a broken wrist when he started to descend from the cab with his back to the ladder. His heel caught on a rung, throwing him forward with sufficient force to break his wrist when he struck the ground. One of the basic rules concerning ladders is to always face the ladder and to always grasp it with both hands. Had such a procedure been followed this accident never would have happened.

SHELLAC INTOXICATION

A PAINTER using shellac in a confined space felt himself becoming dizzy. In his efforts to get out of doors so as to cleanse his lungs with fresh air, he tripped and severely injured himself in the resultant fall. The cause of this accident was insufficient air change in a confined space, and the use of a toxic vapor substance in this inadequately ventilated area. Here it appears that it was the responsibility of both the painter and his supervisor to see that available mechanical methods were brought into play to insure an adequate fresh air supply and for the prompt removal of undesirable fumes.

SAFETY MAINTENANCE & PRODUCTION Salutes a Safety Idea for January

This miniature model of the water sprinkler system used by the plant fire protection department of Caterpillar Tractor Co. was displayed at the Peoria plant throughout Fire Prevention Week. Capt. William Luenz (left) of the Caterpillar fire department demonstrates the sprinkler system to H. S. Simpson, safety engineer.

A MINIATURE fire protection system was used during Fire Prevention Week and the rest of the month to demonstrate fire safety precautions to Caterpillar Tractor Co. safety supervisors.

Planned by the safety and plant protection divisions of the company, the display model shows sources of water for fighting fires in the plant. It has green, yellow, and red valves to indicate components of the system. Action is provided by a sprinkler head which can be fired so that it will spray water from a five-gallon tower into a miniature "factory."

Represented in the network of pipes which dominate the display are four sources of water which are available for fire fighting at the plant: the East Peoria Water Works, a 1,000,000 gallon reserve stored by East Peoria, and 825,000 gallon reserve stored by Caterpillar, and three wells on Caterpillar property.

The plant's buildings are protected by 54,000 sprinkler heads or are otherwise fire-proofed. A corps of 100 volunteers is available on three shifts to supplement the plant protection department. Two captains are in charge of the fire protection system and 15 inspectors periodically tour the plant to look for and correct possible fire hazards. Twenty-three lecture-demonstrations were given during the month led by Capt. Floyd Mauschbaugh and Capt. William Luenz.

Allison in New Position

MR. W. W. ALLISON, formerly safety engineer for Koppers Company's Chemical Division, is now working in a similar capacity for the Westinghouse Electric Company's new Atomic Power Division. Mr. Allison is well known for his industrial safety work during the last decade, and is the author of several papers published in "Safety Maintenance & Production," the "National Safety News" and other national magazines.

The Atomic Power Division of Westinghouse is engaged in developing an atomic engine for ships, an undertaking which will add to the swiftly multiplying constructive uses of atomic energy.

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Plant Maintenance Show

THE most elaborate and intensive meetings ever undertaken on the subject of plant maintenance will get under way in Cleveland, O., Jan. 15 through 18, when the Plant Maintenance Show and the concurrent Conference on Plant Maintenance will be held at the Public Auditorium, it was announced by Clapp and Poliak, Inc., the exposition management.

Forty-five speakers drawn from a cross-section of American industry will address the conference while more than 150 companies will display thousands of new products designed to cut the huge maintenance bill of industry.

The costs of maintenance alone are estimated to be in excess of eight and a half billion dollars annually, or more than the total paid annually in dividends to stockholders. Both the conference and the show will reflect the growing concern of industrialists with this staggering waste not only in normal production but also in light of the national defense crisis.

A number of national and regional scientific organizations are cooperating actively in the sponsorship of the events. The conference is being sponsored jointly by the American Society of Mechanical Engineers and the Society for the Advancement of Management. The American Society of Lubrication Engineers will present a panel discussion on lubrication. The Cleveland section and the management division of the A.S.M.E. will sponsor the banquet at which "What National Defense Means to Plant Operation" will be discussed, and the Cleveland Engineering Society and the Cleveland section of S.A.M. will cooperate. L. C. Morrow, consulting editor, "Factory Management and Maintenance," is general chairman.

In addition to general sessions, separate conference meetings will be devoted to special problems in particular industries. These will include chemicals, paper and paper products, food, and metal working. Separate sessions also will discuss lighting equipment, problems of the small plant, electrical equipment, and power plant and heating equipment.

The exhibit area of the show will be 250 per cent greater than the first show and conference sessions have increased from six to 12. Advance registration cards and hotel reservations may be obtained by writing Clapp and Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Oil Safety Experts Honored

THE Central Committees on Accident Prevention and Fire Protection of the American Petroleum Institute have awarded "Certificates of Appreciation" to three men for meritorious service in the

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PAT. PEND.

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field of safety. They are:

Max B. Anfenger, retired, formerly with Standard Oil Company of California, San Francisco, for persistent efforts and valuable accomplishments in the development of new and improved fire-protection techniques, and in the protection of the industry against unreasonably restrictive regulations.

Emil J. Senne, retired, formerly with the Socony-Vacuum Oil Company, Inc., of New York, for outstanding services rendered in the organization of the Institute's accident prevention department and committees.

Clyde W. Smith, retired, formerly with Standard Oil Company (Indiana), Chicago, for 14 years of consistent and valuable aid in the establishment and development of the Institute's safety services.

Anfenger was presented with his certificate during the API's 30th annual meeting in Los Angeles. Senne and Smith received their certificates during the National Safety Congress in Chicago.

Ebasco Clients Hold 12th Safety Meeting

Safety's Part in Defense and Security Matters Discussed

OVER one hundred safety, operating and personnel executives of Ebasco client utility companies attended the 12th Annual Ebasco Safety Meeting, held in The Blackstone Hotel in Chicago, in conjunction with the National Safety Congress. The keynote of the meeting was struck by H. H. Scaff, Vice President of Ebasco Services Incorporated, engineering, construction and business consulting concern. Mr. Scaff in opening the sessions emphasized the necessity of conserving manpower and money in the all-out defense preparations. He pointed to accident prevention as an important factor in this conservation program in addition to

Help Wanted: Safety Engineer

THE man we want has an aggressive personality, capable of conducting safety meetings and making employees safety conscious. He also has a degree in some field of engineering with about three years or more in industrial safety in a chemical manufacturing plant or equivalent. Membership in American Society of Safety Engineers is desirable but not essential. We are an old well-established chemical manufacturing plant in the Midwest.

Please submit complete resume of previous experience, education, personal data, salary received and expected, and references in that order. All replies treated in confidence.

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You will find the REEVES the best STRETCHER for an emergency. They are used by many industrial plants, hospitals, first aid and rescue squads, police and fire departments throughout the country.

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Keep your stretcher ready for an emergency. Store it in a Reeves Stretcher Canister where it will be protected from dirt, dust and dampness.

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its humanitarian aspect.

In line with the present emergency, a part of the program was set aside for consideration of plant protection and defense measures of utility companies. Col. W. L. Furbershaw, Vice Chairman of Chicago's Civil Defense Plant Protection Committee, addressed the delegates on the physical and psychological weapons of enemy agents and saboteurs and detailed the procedures and precautions necessary for protection against them. Citing America's industrial strength as the country's major weapon in any international conflict, Colonel Furbershaw warned that it is certain to be the enemy's prime objective. The colonel said that some of the dangers of which he spoke were already in evidence and urged that industry make immediate preparation for productive security. As a first step in this program he said that plant protection teams should be organized at the "shop" level under the leadership of a top executive of the company. Following Colonel Furbershaw's talk, practical defense plans of major utility companies were discussed in detail.

Other features of the program included a "What's Your Problem?" panel conducted by C. A. Clift, Division Operations Manager, Arkansas Power & Light Company; a description of the safety program of the Peoples Gas Light and Coke Company by E. S. Beaumont, Director of Safety; and a talk by C. L. Hightower, Safety Director of United Gas Corporation, who outlined the employee relations and morale factors that affect safety. Dr. Walter A. Cutter of New York University led a discussion on motor vehicle safety during which practical problems encountered in the driver-training programs of the various companies were considered. The program included Round Table sessions on safety problems particularly directed to electric, gas and construction operations. A symposium on safety training, a discussion of new ideas in safety programs and a presentation of safety to employees and the public during street operations completed the agenda.

Speaking at the Ebasco Luncheon, T. C. Wescott, President of Ebasco, emphasized his firm belief in the value and necessity of accident prevention in industry and in the world today. Stressing the importance of safety in the nation's preparedness program, Mr. Wescott said that those who "live dangerously" must be taught the folly of their ways and that organized safety efforts must use all available tools—from comic books to intensive training programs—to get the safety lesson across.

Mr. Wescott then announced the final standings in Ebasco's 1949–1950 Safety Award Program. Six companies or divisions thereof attained accident records 25% or more below the national average for their types of operation. Of these companies the Transportation Department of New Orleans Pub-

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lie Service Inc. was awarded the Ebasco Gold Plaque for a record 78.63 per cent below the national average for transit operations, and Mississippi Power & Light Company was awarded the Ebasco Silver Plaque for bettering the national average for electric utilities by 63.18 per cent. United Gas Corporation, West Tennessee Gas Company, Columbus Transit Company and the Electric and Gas Departments of New Orleans Public Service Inc. will be presented achievement certificates in testimony of their excellent performance in accident prevention. The awards have been presented to the presidents of the respective companies at special ceremonies in New York.

Guest speaker at the luncheon was C. T. Evans, Vice President of Arkansas Power & Light Company. Mr. Evans outlined several principles of advertising and selling and showed how essential they were to accident prevention. Many times, said Mr. Evans, a manufacturer creates a need for his product where none exists. The urgent need for safety exists, however, and our problem is not to create the need but a widespread and acute awareness of it. "I think," he said, "that utilities are the most democratic of businesses. Many of the principles of the American system are embodied in what you men are doing here. We must remember that the dynamic of our system is selling, and we must attempt to put our ideas across to the people so that they become a working force in their hearts and minds. Nor must we ever tire of training for we must remember that we are playing not to a grandstand but to a moving procession."

The Program Committee consisted of P. J. Bott, Safety Director of Arkansas Power & Light Company; M. T. Dunlap, Personnel Director of Carolina Power & Light Company; F. J. Hughes, Safety Engineer of Pacific Power & Light Company; H. R. Pearson, Personnel Department Head of Dallas Power & Light Company and W. T. Rogers, Ebasco Safety Consultant, who acted as General Chairman.

ANOTHER SAFETY DAVIS DIVISION FIRST-AID "FIRST"!

Davis, originator of the D-Carton First Aid System, pioneers another long-felt first aid need—a dressing that can be applied easily and quickly with one hand by the injured person himself.

Impregnated with a newly developed adherent substance the bandage with cotton lined 2" x 2", or 2" x 4" gauze pad stays put without slipping or unwinding.

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- Self-adhering—does not adhere to skin
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- Costs no more than a conventional bandage-compress
- Packaged for the Davis D-Carton System
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Write for Bulletin #321

DAVIS EMERGENCY EQUIPMENT CO., INC.
45 HALLECK ST., NEWARK 4, N. J.

Fire-Retardant Paint

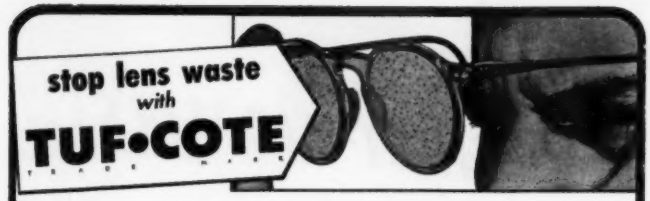
(Continued from page 17)

ture condensation. The coating usually becomes chalky after drying and will brush off on contact. In addition, many coatings are toxic both at time of application and when exposed to fire.

After many years of research, research laboratories have developed a fire-retardant paint which has been released commercially within the last five months. In addition to its fire-retardant characteristics, this product is a true paint, i.e. it is an alkyd resin, oil base, combined with a non-chalking, exterior type titanium dioxide which makes it practical for application on exterior as well as interior surfaces. It is comparable to any high quality paint in decorative value and resistance to weathering, condensation and humidity.

Many Practical Applications

Where should a fire-retardant paint be used? In general, the



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Safety lenses last 7 to 15 times longer against weld spatter and grinding wheel pitting when TUF-COTE treated. TUF-COTE is a microscopic layer of glass-like substance that resists the high temperature sparks that cause pitting. Any glass lens can be treated. We can treat your lenses or give you any type or brand of lens, TUF-COTE treated. We also supply treated prescription lenses to order. TUF-COTE is crystal clear and optically perfect.

TUF-COTE processing may be ordered through Bausch & Lomb distributors or at any of the following:

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Universal Safety Equipment Co., Chicago
Kentucky
Orr Safety Equipment Co., Louisville
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Argus Supply Co., Detroit
Averill Equipment Co., Detroit
Seco Safety Products Co., Detroit
Minnesota
Continental Safety Equipment, Inc., St. Paul
Missouri
Safety Incorporated, St. Louis; Kansas City
New York
Safety Optical Service, Rochester
Ohio
Helmerichs Supply Co., Cleveland
Williams & Co., Inc., Cincinnati, Cleveland, Columbus; Toledo
White Haines Optical Co., Columbus
Pennsylvania
Guardian Safety Equipment Co., Philadelphia
Williams & Co., Inc., Pittsburgh
Rhode Island
Welsh Manufacturing Co., Providence
Tennessee
Industrial Supply Co., Chattanooga
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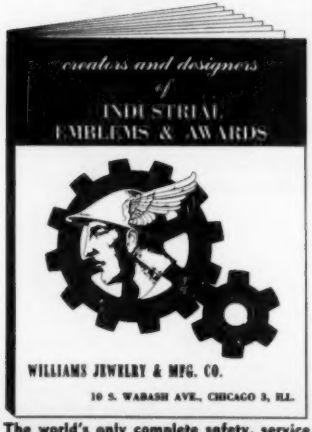

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quick answer is: wherever fire constitutes a danger or hazard to life and or property. Wooden structures such as shops, warehouses, garages, cabins, camps, boats, farm buildings, institutions (hospitals, nurseries) and the like are obviously primary areas for a fire-retardant. Wooden partitions, acoustical tile, attics, stair wells, basements, ceilings and furnace areas are additional fire hazard locations. We cannot overlook the use of a fire-retardant in so-called "fire-proof" steel and concrete buildings. It is too soon to forget the disastrous hotel fire in Atlanta —a steel and concrete building that had many layers of combustible paint on its walls, which served as a conductor for the flash fires that took so many lives. Further, fire-retardants serve as an economical and useful adjunct in those areas requiring a sprinkler system. The fire-retardants prove their worth under these conditions by preventing the spread of flame, thereby forestalling excessive damage by water or other extinguishing agents.

Can you be sure of a particular product? Most manufacturers have had their product tested by any one or more of the public and private testing agencies. The list of these agencies is too well known to require repetition here. The data and results of these tests should be made available upon request. Wherever necessary, the product should be covered by products liability insurance. Many industrial firms with the proper facilities or requiring the fire-retardant for a specific use prefer to conduct their own tests.

It might be of interest to note here that the specific fire-retardant paint mentioned previously is being tested by the U. S. Bureau of Standards (whose specifications were used in the Columbia University tests already completed).

The paint has already been approved by many state and municipal testing organizations, and even by the bureaus of foreign governments. Few people know the ravages of fire as well as do the Japanese, and in tests there, chemists were amazed to find that this fire-retardant paint not only met their requirements of withstanding 800 degree C. for one-half hour but surpassed them to the extent of retarding 1000-degree C. fires.

We have progressed in our efforts to control fire, the destructive master. Fire-retardants cannot prevent the start of fires begun by human carelessness, accident, or acts of God, but they can prevent the spread of such fires. Small fires make big fires and now it is possible to prevent the big fire.

Pictures by courtesy of Flame-Seal Corp.

Ammonia Controls Corrosion

(From page 21) a full-face gas mask and a combination-type canister (organic vapors, acid gas, ammonia), which counteracts both hydrogen sulphide and ammonia gas fumes, have been provided gaugers. A supply of boric acid and fresh water kept near the ammonia dispensing equipment can be used to

wash the skin in the event of exposure from a valve leak.

By the discovery of the ammonia injection system of controlling corrosion, tank storage maintenance and replacement expenses will be cut to a fraction of the current figure. And one more snare to the safety of the gauger has been eliminated.

Reprinted with permission of Humble Pipe Line Company. Pictures of ammonia injection installations by courtesy of Humble Oil & Refining Co.

Aluminum Scaffolds

(From page 20) casters with adjustments up to 18" or 24". Extension bases and outboard safety supports are obtainable to assure the required safety factor where height is an important element. Non-adjustable casters may also be obtained.

Sectional aluminum ladder scaffolds are particularly useful in maintenance and painting and have many applications where larger rolling scaffolds may be impractical. (Fig. 6.) Ladder sections are customarily available in a variety of heights which adds still further to their utility and adaptability. Disassembled, the sections lie flat to require little space for storage.

Specific Advantages

A summary of the proved advantages of such mobile equipment shows the following outstanding points:

1. Firm footing that makes work easier and contributes to greater worker safety.
2. Erection and dismantling time cut to an absolute minimum.
3. Lighter components are more readily handled and safer, too.
4. Greater mobility simplifies scaffolding problems and puts men at correct working level faster.
5. Modern design eliminates many previous accident hazards.
6. Capacity to handle a larger variety of scaffolding jobs that otherwise would require built-up scaffolds.
7. Worth-while savings in man hours—in erection, use and dismantling.

Selecting the Scaffold

Selection of the most suitable type of rolling scaffold involves comparison of many details—particularly when long life and trouble-free service is important. Attention should be given to tubing specifications to assure rigidity and maximum stability. This is particularly important in the case of all horizontal members which carry a load, such as the center cross tube of the frame or the top floor frame where welding occurs. Be sure joints are properly coped and welded to assure long, safe use.

It is desirable that sockets have adequate clearance for ease of assembly and that they are free from dents and burrs which would cause a poor fit. Yet the clearance should be small enough to assure that rigidity is retained when assembled.

The simplicity of the locking mechanism on the braces is also an

PREVENT
ladder slipping accidents on ice or snow
use
Safe-Hi LADDER SHOES
with self-sharpening spike

Dull spikes on a ladder shoe are a hazard on ice or snow. With SAFE-HI LADDER SHOES you know you're always safe because the spike is self-sharpening. A tool steel core, welded between walls of softer metal, wears down first, leaving the hardened core...always sharp because it's thin.

Straight ridges of mixed cord and rubber in the tread will hold on any type of surface.

See your safety dealer or write

SPECIFY Safe-Hi PRODUCTS

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"WOVEN-Gards"

BETTER HAND PROTECTION
at amazing low cost

"Woven-Gards" are hand protectors, mitts, pads and sleeves made of a new safety material. They provide flexibility, comfort, resistance to abrasion and cutting far beyond that of anything used before. They are extremely oil-absorbent and do an excellent job when handling oily, slippery sheets. The porous weave makes them one of the finest protectors for handling lower temperatures. Enthusiastic users say they have never seen values like "Woven-Gards." Excellent protection at lowest cost. Send now for descriptive folder and prices.

Industrial Gloves Co.
1766 Garfield St., Danville, Ill.
(In Canada: Safety Supply Co., Toronto)

Steel-Grip INDUSTRIAL Safety Apparel

important factor. The pin and springs should be visible for inspection and readily accessible for quick cleaning. These important points, in practice, influence the satisfactory results that are achieved with this new and very modern type of scaffolding.

Safety Precautions

For the most satisfactory results in working with aluminum rolling and ladder scaffolds, the following suggestions are basic:

1. Do not erect a scaffold higher than safety rules permit in ratio to the base area.
2. Avoid overloading, which often causes accidents, extra labor and needless expense. Check to see how your scaffold rates in Underwriters' Laboratories, Inc. load tests.
3. Take precautions in outdoor work to prevent such scaffolds from being struck by trucks, etc.
4. Always erect guard rails around working platforms.
5. Never permit workmen to move scaffolds by pulling themselves along while on top of scaffold.

The development of these modern, light, strong aluminum rolling scaffolds has opened up a new era in maintenance efficiency and safety. The unusual versatility of this equipment makes it adaptable to an increasingly wide range of uses.

Pictures by courtesy of the Patent Scaffolding Co., Inc.

THE FUTURE SHOWS

Cleveland, Ohio

Jan. 15–18. Second Plant Maintenance Show and Conference. (Auditorium). Exposition Management: Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Philadelphia, Pa.

Seventeenth Annual Philadelphia Regional Safety Conference and Exhibit, February 6–7, 1951. (Bellevue-Stratford Hotel) Walter Mathews, manager, Philadelphia Safety Council, 17th & Sansom Sts., Philadelphia 3, Pa.

Birmingham, Ala.

March 4–6. Twelfth Annual Southern Safety Conference and Exhibit. (Tutwiler Hotel). Braxton B. Carr, exec. sec., Southern Safety Conference, 2120 First Ave. North, Birmingham, Ala.

A crew's work with the Military Sea Transportation Service, Atlantic doesn't end when it goes ashore! Here at the U. S. Naval Reserve Training Center, Ft. Schuyler, N. Y., a MSTS class learns the most efficient fog nozzle technique for quickly subduing a blazing oil tank. Behind the trainees are Cdr. Roy T. Gallemore, USNR, officer in charge of the training center and Capt. Ole Sorensen, Master of the USNS "Sgt. J. E. Kelley" of which several of the fire class are crew members. Under Capt. Gallemore's direction, the firefighters are learning how to work their way to within a few feet of the blaze.

Picture by courtesy of the Department of the Navy.

Boston, Mass.

March 19–20. Thirtieth Annual Massachusetts Safety Conference and Exhibit. Edgar F. Copell, President, Massachusetts Safety Council, 31 State St., Boston 9, Mass.

New York, N. Y.

Twenty-first Annual Safety Convention and Exposition, April 3–6. (Statler Hotel) John Cost, general chairman, Greater New York Safety Council, 60 E. 42nd St., New York, N. Y.

Columbus, Ohio

April 10–12. Twenty-first All Ohio Safety Congress and Exhibit. (Neil House.) James H. Fluker, chairman, % Industrial Commission of Ohio, Columbus 15, Ohio.

Tulsa, Okla.

April 18–20. Annual Statewide Safety Conference. (Mayo Hotel). G. V. Carmichael, mgr., Oklahoma State Safety Council, Oklahoma City, Okla.

Louisville, Ky.

April 19–20. Annual Statewide Safety Conference. (Kentucky Hotel). Estel Hack, managing director, Louisville Safety Council, 214 Speed Bldg., Louisville, Ky.

Kansas City, Mo.

April 19–21. Central States Safety Congress. George M. Burns, dir., Kansas City Safety Council, 419 Dwight Bldg., Kansas City 6, Mo.

Pittsburgh, Pa.

Twenty-sixth Annual Western Pennsylvania Safety Conference and Exhibit, April 24–26. (Hotel William Penn). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, Inc., 605 Park Bldg., Pittsburgh, Pa.

New Haven, Conn.

Sixth Annual Connecticut Industrial Safety Conference, April 26. Donald H. Ackley, Manager Conn. Safety Society, G & O Mfg. Co., 138 Winchester Ave., New Haven, Conn.

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Fourth National Materials Handling Exposition, April 30–May 4. (International Amphitheatre). Clapp & Poliak, Inc., exposition management, 341 Madison Ave., New York, N. Y.

Syracuse, N. Y.

Central New York Safety Conference & Exposition, May 14–16. (Hotel Syracuse). Walter L. Fox, executive secretary, Safety Div., Syracuse Chamber of Commerce, 351 So. Warren St., Syracuse, N. Y.

Winston-Salem, N. C.

May 16–18. Twenty-first Annual North Carolina Statewide Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, N. C.

industrial Hygiene

ASSOCIATE EDITOR
JACOB A. GOLDBERG, A.M., Ph.D.

National Safety Congress Speakers Discuss Industrial Hygiene Problems

INDUSTRIAL health is a combination of many things—all of which lead to greater production figures. This was the theme of a discussion by Dr. K. F. Kapov, medical director of Armour and Company, before the meat section of the annual convention of the National Safety Council.

Dr. Kapov defined industrial health as a specialized form of medical and public health practice which combines elements of medicine, engineering, chemistry, toxicology, psychology, sociology, statistics and the principles of the prevention of disease and health promotion.

"The primary purpose of industrial health supervision," the speaker said, "is to keep employees healthy. The higher the standards of health continuously over a long period of time, the better can production be in quality, quantity and permanence."

Dr. Kapov recommended that continual studies be made of employees' health, instituting proper treatment if necessary. He urged that pre-employment medical examinations be mandatory as a general health safeguard.

Good Health Reduces Accidents

Keeping healthy is a good way to keep out of accidents. The National Safety Congress was told that regular medical examination of workers has proved to be an effective contributing factor in reducing the accident toll.

Dr. E. Kern Linder, medical director of the Atlantic Refining Co., Philadelphia, reported to the petroleum section of the annual convention that information gained from these medical checkups often will be useful in placing an employee in an endeavor which he is physically able to handle without causing an accident.

"Employee training can do much to reduce the number of accidents caused by people," he said. "But what about physical defects that put people in these don't know—can't do—don't care categories? The only way you can get at them is through medical examination, diagnosis and subsequent treatment."

Dr. Linder cautioned that real results of such a program depend on its being continued year after year.

Tank Cleaning Hazards

J. W. Baldwin, division safety engineer of the Humble Oil and Refining Co., Houston, Tex., told the petroleum section that planned action is the way to remove hazards in any operation.

Although he was discussing specifically hazards to be expected in lease tank cleaning in oil production, he told the petroleum section that planning for safety is not restricted in its areas of effectiveness.

"Tank cleaning, like many other operations of the petroleum industry," he explained, "is fraught with danger for the person or persons who do not formulate a plan for eliminating or safely working with the inherent hazards of the job."

Mr. Baldwin warned that cleaning of any enclosed vessel in which petroleum products have been stored presents three separate and distinct types of hazards: fire and explosion, asphyxiation or suffocation due to gas or a deficiency of oxygen, and toxicity of various petroleum components such as hydrogen sulphide.

Foundry Health Hazards

The nation's foundry operators were told to get out their brooms and dustpans and improve the health of their employees. Good housekeeping is probably the most important factor in removing

health hazards in foundries, according to Herbert J. Weber, chief industrial hygienist of the American Brake Shoe Co.

"The greatest reduction in the incidence of occupational disease and of accidents in the foundry will be brought about by good housekeeping," he said. "It is almost a complete answer to the question 'What can I do about industrial hygiene?' and yet is often so ignored."

Mr. Weber proposed two factors—education and conviction on the part of top management that good industrial hygiene is good business—as prerequisites in any foundry hygiene program. They must be accepted before bringing special equipment or other controls into a safety proposal.

"Without them," he concluded, "it is foolish to discuss safe practices or to install expensive ventilating systems."

Industrial Pollution

Industry faces a three billion dollar public relations bill in the next decade, and there isn't much it can do about it. That unhappy news was brought to manufacturers of the nation by G. Edward Pendray, senior partner of Pendray and Co., New York public relations firm, during a discussion of industrial pollution of air and water.

Speaking before the chemical section, he said that the era of smoking chimneys is passing, but community insistence that factories take steps to halt pollution of surrounding air and water through industrial waste must be recognized.

A survey of 50 companies throughout the nation by his firm indicated that industry as a whole may now be spending at the rate of 200 million to 300 million dollars each year for the elimination of air and water pollution. And that the total sums may run to three billion dollars or more in the coming decade.

"These figures," he said, "are a powerful answer to the charge that industry as a whole is dragging its feet in this program. But they do not represent a drop in the bucket compared to the total investment that will be required to clean up the whole problem. It will certainly cost many billions."

Mr. Pendray said that communities are insisting on clear air and clean water, even though manufacturing plants may dot the area. He recommended that management accept the movement and make voluntary adjustments rather than risk the enactment of legislation.

He recommended that any plants built in the future be provided with adequate facilities to prevent pollution. Present concerns should anticipate public objection to pollution and take immediate steps to correct it. If organized action has been started against a plant, that company's management should not stubbornly oppose it but cooperate to the full extent and

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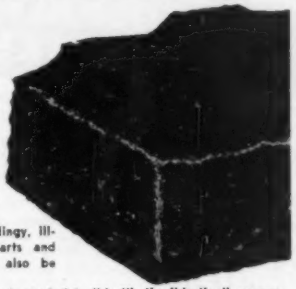

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be rewarded with the good community relations so necessary to success. He added that if a company feels it is being unjustly accused, it should offer to help underwrite the cost of an objective technical study of the community's pollution problems to bring out the true facts.

"It is certain," he concluded, "that Americans want and mean to have clean air and water—as well as jobs, industrial prosperity, and the products of industry. I believe industrial managements and stockholders want these things, too."

Skin Irritants

Skin infections have become another price America pays for its high rate of industrial production. Dr. Clifford H. Kalb, Milwaukee, Wis., authority on dermatitis, told the food section that management should beware of super-irritants liable to disrupt plant schedules.

"Characteristic of the overwhelming response to demands of an unparalleled decade of events," Dr. Kalb said, "has been the creation of the 'super-shop,' a mingling of highest achievements in chemical and power engineering. Out of this streamlining of industrial effort has grown an increasing demand for a wide range of agents, those super-irritants, if you will, which make it possible to maintain the pace we have set."

The speaker pointed out that the only successful way to meet the threat of occupational dermatitis is to make tests of new agents brought into use, to be aware of their irritating properties, and to be on guard continuously to lend assistance when a worker complains of a skin irritation.

Workers were told to wash their hands and keep healthy—particularly in terms of skin disease. Cleanliness was advanced by W. F. Scholtz, supervisor of industrial hygiene at Allis-Chalmers Manufacturing Co., as a major factor in the control of occupational dermatitis during a talk before the food section.

He said that studies of occupational dermatitis have showed that major factors in its cause include failure on the part of the worker to do a thorough washing job at lunch time and at the end of the shift, failure on the part of the worker to change into clean work clothes, and exposure to high concentrations of disinfectants and solvents.

Mr. Scholtz said that experience in his company, where a concentrated program has resulted in a 74 per cent decrease and a reduction from 10.3 to 2.7 in the number of cases per million manhours of exposure, has showed that occupational dermatitis can be checked by improved personal cleanliness and treatment of solvents and disinfectants to render them harmless.

Industrial Health Is Community Health

Educating your workers in how to be healthy not only improves your production records but shows the way to improve well-being for your entire community.

That was the promise tendered industrial management by Dr. Jean Spencer Felton, medical director of the Oak Ridge (Tenn.) National Laboratory and editor of "Industrial Medicine and Surgery." He spoke before the industrial nursing section.

Explaining the obvious advantages for an industrial plant to have its workers schooled in health education, thus reducing possible lost time from illness, Dr. Felton also urged that such a program extend beyond the walls of the company.

"One cannot consider the employed person as one whose health is of concern only from 8:00 a.m. to 5:00 p.m.," he said, "or can one dismiss as irrelevant the health of his family. Industrial health is community health and all health educational undertakings must be aligned to this thinking."

Safety and Health

Safety and security go hand-in-hand with a working accident prevention program. This was reported by W. C. Bochert, safety engineer of the St. Joseph Lead Co., Bonne Terre, Mo., in a talk before the metals section of the annual convention. He pointed out that a good accident prevention program in an

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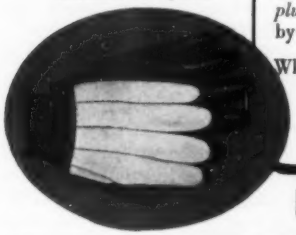

HOOD for NEW Safety PLUS

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industrial plant will include efforts to maintain the good health of the workers and giving them assistance when needed.

"All of us," he declared, "spend considerable time in designing efficient plants and approving the expenditure of large sums of money for the maintenance of machinery and buildings. There is no reason why we should do less for the man who handles the machine.

"Improvements in employee health will improve employee relations, and there is no bigger problem for management today than the bettering of industrial human relations. An employee who knows that you are interested in maintaining his health and earning capacity will feel more secure in his job."

Mine Ventilation

Efficiency is the word for effective mine ventilation, according to F. J. Peternell, safety engineer of the Union Pacific Coal Co. Speaking before the coal mining section, Mr. Peternell pointed out that proper mine operation will include a thorough study of any ventilating system to assure full return at the least possible cost.

"To have efficient mine ventilation," he declared, "we first must have an efficient mine operation." Case histories will show that "some producers of coal give this little thought because of the tendency to 'get by' with inadequate ventilation while others are ventilating with exceedingly high water gauge readings which in turn raises the cost of the product in excess power bills."

Mr. Peternell proposed construction of overcasts, air locks, regulators and air-tight stoppings for delivery of an adequate and fresh supply of air to the working areas with the least opportunity for interruption. This will result in an efficient mine, efficient ventilating system and a safer and more efficient miner.

Willis R. Devens, ventilation engineer for the Glen Alden Coal Co., Wilkes-Barre, Pa., reported that much progress has been made in the last 20 years in mine ventilation but that the job is far from complete. Mr. Devens said that the average increase in ventilating capacity during the past two decades has been 30 per cent, providing an average of 1,000 cubic feet of air each minute for every underground employee.

"Despite the improvements made," he said, "and the hazards anticipated, results as to reducing the frequency of gas accidents have been disappointing." Mr. Devens added that five of 83 fatalities in the anthracite region during 1949 resulted from gas explosions.

The speaker predicted further improvement, however, under a program now under way in anthracite mines, providing for increases in air volume, installa-

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tion of more dust control devices and organization of safety training classes among the workers.

Water Hazards in Coal Mines

Water puts out fires, but it also will put a coal mine out of business and possibly cause death if not kept under control. The problem of water hazards in coal mining was discussed before the coal mining section by S. H. Ash, chief of the safety branch of the U. S. Bureau of Mines, and Clyde H. Maize, Pennsylvania state mine inspector. The two speakers discussed the problem as it applies both to anthracite and bituminous coal mines and called for concentrated action by the industry to meet it.

"The safety of the men who work in these mines," Mr. Ash said, "demands urgent solution of the mine-water problem. This problem extends beyond the limits of any particular private company's operations. The subsurface water level has no respect for private ownership boundaries."

Mr. Ash also pointed out that many anthracite mines have become unworkable because of flooding and said that many, many tons of coal are waiting to be mined if the water problem can be whipped. He reported that a gigantic drainage tunnel plan is under consideration to salvage this coal.

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THE Manufacturing Chemists' Association, Inc., announces publication of Chemical Safety Data Sheet SD-37 on Styrene Monomer. The data incorporated in this Safety Data Sheet is primarily designed for supervisory personnel and staff members, setting forth pertinent information relating to the safe handling and use of the chemical in its manufacture, transportation and storage, as well as laboratory application. Placement of responsibility and education of employees relative to strict safety practices is particularly stressed.

The manual, prepared by the General Safety Committee of the Association, embodies important physical and chemical properties of Styrene Monomer. This embraces a variety of features of safe handling and hazards encountered in storage, loading and unloading of tank cars, drums and other containers. Specific attention is directed to fire, explosion and health hazards, including personal protective measures and first aid and medical treatment. All data are cross-referenced and adequately documented in relation to Warning Labels, National Fire Codes, Bureau of Explosives, American Standards Association, Interstate Commerce Commission regulations, etc.

Chemical Safety Data Sheet SD-37, Styrene Monomer (14 pages) may be purchased at 20¢ per copy from the Manufacturing Chemists' Association, Inc., 246 Woodward Building, Washington 5, D. C. Remittance should be sent with each order.

THE INDUSTRIAL Nurse

EDITOR
ROSAMOND J. WEBSTER, R.N., A.M., Ph.D.

Serious Business

SURVIVAL Under Atomic Attack" is the ominous title of a booklet printed by the federal government. In the section headed "Six Survival Secrets for Atomic Attacks," the following are listed: (1) Try to get shielded; (2) Drop flat on the ground or floor; (3) Bury your face in your arms; (4) Don't rush outside right after a bombing; (5) Don't take chances with food or water in open containers; (6) Don't start rumors. A set of "Five Keys to Household Safety" include: (1) Strive for fireproof housekeeping; (2) Know your own house (cellar, ways to turn off oil burner, utilities); (3) Have emergency equipment and supplies handy; (4) Close all windows and doors and draw the blinds; (5) Use the telephone only for true emergencies. These 32 page booklets are available from various local sources. They may also be obtained from the U. S. Government Printing Office, Washington, D. C. The unfortunate and disturbing international situation again brings to the fore the important part that medical, nursing and affiliated personnel play in our daily lives. Now again, as a matter of preparation for possible serious emergencies, it becomes necessary for industrial medical personnel to prepare for eventualities. It need hardly be stressed that industrial nurses are always ready to do their shares in times of national need. They can make a more effective contribution if they are fully informed about eventualities and opportunities for full service.

Types of Personality

A STUDY of the types of automobile drivers who are accident-prone indicates several classes of individuals who are, above all, emotionally immature. It is commonly recognized that the emotionally immature individual has difficulties in adjusting to realities of life, whether these are encountered in family life, on the playing field, in school or college, in the factory or other places of employment. The findings related to automobile drivers have a bearing on the larger problem of personality difficulties in industry as a whole. In summary, the seven types are described as follows: (1) The individual who has not outgrown the childhood conviction that his wants come first. He is apt to give evidence of this attitude in his driving pattern. (2) The individual who was taught as a child to obey without thinking. While driving, he strictly obeys all traffic regulations and tends to create severe situations in heavy traffic. (3) The pampered type of female who is frequently well-groomed and even charming, and who as a child tended to aim to get her own way by fluttering her eyelashes and by her smiles. She practices the same measures on traffic police to get away with traffic violations, and does the same in business with her superiors. (4) The type who was bullied by older brothers and sisters, thus building up many resentments which he tries to work off by speeding, sideswiping other cars, and otherwise ignoring the rights of others. Similar or parallel conduct is evident in workplaces. (5) Drivers who were overprotected or severely dominated by parents or others when they were young children. They tend to show off, to be dare-devils, lawbreakers, and otherwise dangerous when driving a car. There is a carry-over into industry with resultant hazards to themselves and fellow workers. (6) The individual whose misconduct as a child was either ignored or glossed over by indulgent or careless parents. (7) The type who was, and still is, poor and wants to show off by racing with other drivers.

Absenteeism

AN INDUSTRIAL organization having several plants in different parts of the country is in an excellent position to carry on comparative studies of personnel practices and end results in its own factories. This is particularly the case when there is a unity in personnel practices, when uniform record

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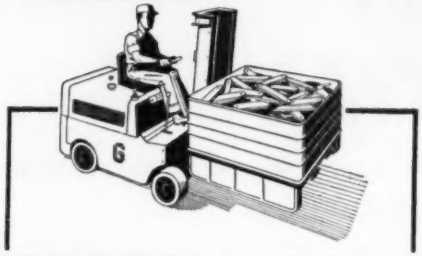

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forms are kept, supervisory personnel similarly trained, and adequate control of the branch plants is maintained by the main office. These points were stressed at the recent conference of the American Public Health Association in St. Louis. Such practices and procedures are particularly helpful in studying accident records, labor turnover, absenteeism and production. In an analysis of absenteeism carried out under controlled conditions, some interesting and significant facts were uncovered. Not only were a number of plants studied, all under the same management, but the records of similar departments were likewise compared. It was found that the personality, training and experience of supervisors definitely affected absence rates. Poor management, a feeling of insecurity, and scales of pay, coupled with personality factors were apparently decisive items in causing high absentee records in related plants and departments. It was further indicated that health status, as is well known, had a distinct relation to absenteeism. This company has found that close cooperation between the personnel department and the medical department in the reporting of absences, aided the plant visiting nurses materially in reducing the length of absence from the plants. Females had an absence rate, for all causes, that was three times that of the male workers. These several findings warrant serious consideration.

Safety In Industry

INDUSTRIAL management has long acted on the principle that safety in industry, in the long run, is good business. Problems relating to safety practices are generally dealt with intelligently and effectively in large plants. It is in the small plants and factories in which realization of the methods and controls are more frequently overlooked. Even so, the activities of insurance company safety engineers and governmental factory inspectors play an important part in safety control. The President's Conference on Industrial Safety (Bulletin No. 121 M. S. Department of Labor 1950) has drafted a report, some items of which should be of interest to industrial nurses and others concerned with the health and safety of workers. The following statements are taken from the report:

(1) Safety primarily is the legal and moral obligation of the employer. The employer must have a sincere and continuing interest in providing for the safety of employees. This interest is demonstrated by: (a) the initiation of a sound safety program with the policies, procedures and staff necessary to make it effective; (b) the provision of safe working conditions, machinery and equipment, and personal safety protective devices and apparel where necessary; (c) the development of effective training programs for supervisors and employees, and (d) the encouragement of employee interest and participation by making available channels through which employees may offer suggestions, advice and recommendations for the improvement of safety. Management must have the authority necessary to carry out its responsibility. No steps should be taken which would create confusion and uncertainty as to management's responsibility and authority.

(2) Cooperation in the safety program is the moral obligation of each employee. This is demonstrated by: (a) working safely at his job; (b) having regard at all times for the safety of fellow employees; (c) using his knowledge and influence to prevent accidents; (d) calling attention to unsafe conditions and (e) contributing his ideas, suggestions and recommendations for the improvement of safety.

(3) In unionized plants the welfare of the employees places on the labor union a moral obligation to cooperate in accident prevention, within the framework of its agreed-on participation. This is demonstrated by (a) taking its agreed part in the safety program in the plant; (b) using its influence in encouraging the employees it represents to work safely; (c) promoting accident prevention through its publication, union meetings and educational courses, with emphasis not only on plant safety but also with due regard to safety in the home, on the highway and in other activities outside the plant.

Medical Care

AT THE annual meeting of the American Public Health Association held in St. Louis, October 30 to November 3, several sessions were devoted to the discussion of medical care for non-industrial illnesses. Voluntary organizations, private industries, public utilities, and insurance companies were represented by speakers. In a larger voluntary plan covering about 225,000 workers and their families, there is joint control by both medical and lay personnel with consumers of the medical services adequately represented. A midwestern street car company plan provides medical care for workers injured on the job plus medical care for all members of the family, including children up to the age of 18 years. The cost is met by payments from the workers and the employer. The plan is operated by a board of 36, of which the company appoints 12 and the employees 24. The report was that this plan had helped considerably in developing good employer-employee relationships. A representative of an insurance company pointed out that private insurance companies can meet any medical service situation, and can compare favorably with any proposed government plans. Group insurance plans are growing rapidly, and insurance companies are developing procedures to meet varying and new conditions. A representative of the United Automobile Workers pointed out that in the past two years organized labor has stressed the need of a health insurance plan in labor contracts. Hospital insurance under labor contracts is expanding and will make much progress, as will other related medical care programs under labor contracts. These were some of the points raised. Others also warrant careful study. If these medical care plans evolve rapidly, the medical and nursing departments of industry will be involved in various ways.

Hope For Arthritics and Rheumatics

FIGURES released by the U. S. Public Health Service indicate that at least 200,000 in the United States are totally and permanently disabled by arthritis and rheumatism. 800,000 partially disabled, and 6,000,000 have some form of these two conditions. As all industrial nurses quickly learn or already know, many workers complain of these ailments or find it necessary to absent themselves for short or long periods of time because of them. With the advent of cortisone and ACTH, in the production of which industry has played an outstanding part, new hope came to many sufferers. There have been some proposals in Congress to expand federal aid to research on these substances and their use in treating arthritis. Recent reports indicate that other substances may be beneficial in the treatment of these and other disabling conditions. Drs. Hench and Kendall, who did the first work with cortisone have pointed out some undesirable side effects that may follow the administration of cortisone and ACTH. These powerful hormones, if given long enough, may produce undesirable difficulties. Females, especially menopausal or adolescent, show more of these effects than males. Such effects are rare in diseases such as acute joint or acute rheumatic fever, which are now controllable by short courses of treatment, but are more common in patients receiving long-continued treatment for rheumatoid arthritis. Few of these side effects present emergencies, as most develop slowly and can be detected by close observation. Extensive research work is going on to learn what factors in these powerful substances cause the side effects; to find a drug that is cheaper to produce, safer and more readily available than cortisone. Because of the contributions to science by industry, the price of cortisone has already dropped from $1,000 a gram to about $50. It is now generally available in all large hospitals in the country. There is a new hope for arthritics and rheumatics and such sufferers might well be advised by industrial nurses accordingly.

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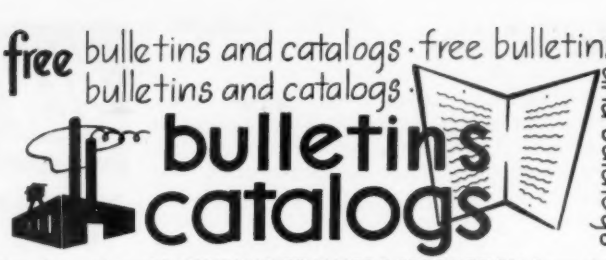

You, the readers of SAFETY MAINTENANCE & PRODUCTION, have picked the 24 booklets, reviewed below, as the ones you most wanted to see. SAFETY MAINTENANCE & PRODUCTION Reader Service Department presents these reviews again for those executives who may have missed the original reviews in the January–November issues.

PERSONAL PROTECTION

Lens Cleaning Cabinets 1

The Wilkins Co., Inc. A 4-page booklet describing the features and advantages of the lens cleaning cabinet and fluid. Photographs and drawings illustrate the cabinet's 3 main parts: the cleaning fluid container, the tissue compartment and dispenser. Lists occupations where equipment of this kind would be beneficial to employees.

Plastic Safety Spectacle 2

U. S. Safety Service Co. A bulletin introducing a new idea in the safe eyewear field. It illustrates the interchangeable feature of the lens which fits safety goggles as well as spectacles, making it one lens suitable for 2 eye protection products. Composition of the lens and frames and specifications are also included.

New Glove Catalog 3

Davids' Gloves, Inc. This company has just published a new 1950–51 catalog picturing 50 different work gloves and describing over 160 variations of them. The styles shown are manufactured for men, women and children for all lines of industry.

Emergency Resuscitator 4

E. & J. Manufacturing Co. A 4-page bulletin stressing the importance of including resuscitators in industrial safety equipment. Describes the speedy deadliness of asphyxia and how the resuscitator can save life within seconds. Includes specifications, directions, and uses.

Protective Coating for Lenses 5

Wallace Optical Co., Inc. A bulletin describing a microscopic layer of glass-like substance which prevents safety lenses from being pitted by molten metal and sparks. Gives data on affect of coating on glasses and length of life of glasses after treatment.

Face Shields 6

Fendall Co. A new bulletin describing this company's face shields in regard to composition, advantages, improvements. Types, specifications, and ordering instructions are also included.

Full-Vision Gas Masks 7

Acme Protection Equipment Co. A 4-page bulletin describing the full-vision, new valve features of this company's gas mask. It includes the recent improvements and developments made in the field of respiratory protection.

TRAINING AIDS AND WARNINGS

Women in Industry 8

Marsh & McLennan, Inc. Discusses some of the more important aspects of the problem of women in industry and suggestions for a constructive approach to it. Features the basic requirements of working women, the percentage of jobs that can be handled by them, a physical and mental comparison to men, and the equipment and medical care necessary to maintain morale, health and safety.

Industrial Emblems & Awards 9

Williams Jewelry & Mfg. Co. A 32-page catalog showing the stock of safety emblems, badges, trophies, plaques, memorial tablets, service emblems and awards of all types.

Safety Signs 10

Stonehouse Signs, Inc. A 4-page bulletin picturing the various sizes, colors, and types of signs made for safety warnings, and directional and instructional purposes. A size and price list is also included.

Colored Fuse Links 11

James R. Kearney Corp. A 4-page bulletin describing a new method to prevent using wrong fuse links during electric repair jobs. The illustrations show how colored tabs are used to mark links. Correct electrical specifications are printed on them to eliminate confusion and errors. It also tells what links are best for what jobs, and their relationship to the rest of the electrical set up.

PLANT MAINTENANCE

Oil Absorbent 12

Canfield Oil Co. A new bulletin illustrating an oil and grease absorbing substance for industrial floors. Pictures show the product's high saturation point and greater bulk feature. Uses and advantages are also listed.

Tough Steel Floor 13

Inland Steel Co. A small pamphlet pointing out the safety and economical advantages of an all rolled steel floor covering. It describes what added protection, cleaning ease, and durability are to be had with this type flooring.

Lightweight Aggregates 14

Great Lakes Carbon Corp. A general brochure on lightweight aggregates in 8 pages. It is separated into 2 main sections, one on lightweight plaster, wherein uses, advantages and types of mixes and applications are discussed, the other on lightweight concrete, where such data as the advantages, uses, typical applications and complete technical data are included. Fireproofing and insulating with this product is also discussed.

Big Little Vacuum Cleaner 15

U. S. Hoffman Machinery Corp. A 4-page booklet describing the 41" vacuum cleaner for use in large or small industrial areas. Construction points and specifications are given in full detail. The stressed feature of the bulletin is the large, easily detached dust container.

Anti-Corrosion Coating 16

Industrial Metal Protectives, Inc. An 8-page, illustrated, technical bulletin describing corrosion resistant coating for metals. It presents case histories, complete specifications for the formulations, data on surface preparation and methods of application.

Roofing Manual 17

Johns-Manville. A publication on how to prolong the life of a roof and repair damages. Recommendations apply to industrial, commercial, residential and farm buildings. Roof problems are discussed in three groups, depending on the type of repair needed. Reasons why roofs wear out is also included.

Maintenance Coatings 18

Wilbur & Williams Co. A 13-page booklet wherein maintenance problems of equipment and buildings are analyzed and recommendations made for economical upkeep. Describes specialized paint coatings for resisting moisture, fire, mildew and chemicals.

Sanitation Maintenance 19

U. S. Sanitary Specialties Corp. A 24-page booklet describing cleaners, disinfectants, floor treatments, polishes and soaps. Various cleaning, disinfecting and polishing applications for floors, hospitals and washrooms are suggested. Equipment for the maintenance of sanitation is also pictured and described.

Safety Ladders 20

Goshen Manufacturing Co. A 4-page ladder manual describing a complete line of Blue Ribbon ladders and accessories. The manual identifies each type of ladder, gives specifications and illustrations, and includes descriptions of the type of work it should be used for. Details of construction and safety features are emphasized.

Conveyor Belts 21

Cambridge Wire Cloth Co. A new booklet describing the types of wire cloth conveyor belts, their uses, advantages, and accounts of their endurance under unusual mechanical strains and temperatures.

Electrical Distribution System 22

Feedrail Corp. A 60-page catalog describing the prefabricated trolley busway electrical distribution system. It is planned in sections to simplify the selection of equipment in operations involving cutting, sewing, portable tools, materials handling, cranes and hoists. There are special sections on planning, layouts, installation and specification.

Tip Card for Slings 23

MacWhyte Co. An illustrated, pocket size, card gives tips on proper care and use of slings for safe handling. Created as a service to safety men for the promotion of greater plant safety.

FIRE PROTECTION

Dry Chemical Engine 24

American-La France-Foamite Corp. A 4-page bulletin featuring a new extinguisher for class B and C fires. Descriptions of extinguisher effectiveness and capacity, directions in handling, specifications, and physical characteristics are included.

Soda-Acid Extinguisher 25

Stop-Fire, Inc. A new bulletin describing the features of a removable discharge elbow to check against clogging, and a new type projecting inner screen, also for clogging prevention. Specifications, descriptions and order data are also included.

WRITE NUMBERS CORRESPONDING TO THE ITEMS HERE

Your Company Name _____
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SAFETY MAINTENANCE & PRODUCTION
75 Fulton Street
New York 7, N. Y.

January, 1951

What's New...

A coupon is provided at the end of this section for your convenience in obtaining illustrated descriptive literature of products listed here. *Send the coupon or written request to:*
Service Dept., SAFETY MAINTENANCE & PRODUCTION

NON-SLIP FLOOR WAX

A NEW non-slip product, called Kengrip Wax, has been developed by David E. Kennedy, Inc., manufacturers of asphalt tile and cork tile flooring. Kengrip Wax was especially designed to reduce the hazards of slips and falls on floors. It does not streak or puddle, is not tacky, does not collect dirt, wears evenly and will not increase maintenance costs. Research chemists obtained these results through the addition of colloidal silica to emulsified carnauba. Carnauba, hardest of all natural waxes, is obtained from the Brazilian wax palm. The new product's water-like consistency enables it to be applied easily and smoothly. It leaves an attractive coating like the company's Kenwax.

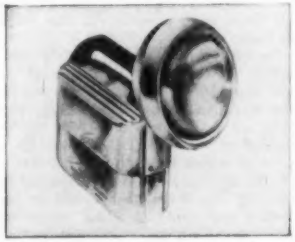
The new product will be put on the market in 5-gallon and 55-gallon drums. It is designed for use in factories, offices, schools, retail stores and other public and semi-public buildings. For details, use the coupon.

METAL-FIRE EXTINGUISHER

THE first pressurized extinguisher designed for hazardous metal fires has been developed by Ansul Chemical Co. of Wis. The Ansul MET-L-X Dry Powder Extinguisher is effective on fires in magnesium, sodium, potassium, zinc, powdered aluminum, etc. The extinguishing agent fuses and forms an air-excluding crust over the burning metal. Without oxygen, the fire goes out.

The small particle-size of Ansul MET-L-X Dry Powder makes possible its use in a gas-pressure type extinguisher. The new extinguishing agent is moisture-repellent, free-flowing, non-toxic, non-corrosive, non-abrasive, and electrically non-conductive.

Advantages of a pressurized extinguisher for metal fires (as contrasted with shoveling soda ash, for example) are: 1. stream of Dry Powder can be directed by the operator for uniform coverage of burning area and for most efficient use of extinguishing agent; 2. metal fires can be fought at safe distance, minimizing danger of burns; 3. extinguishing agent cannot be contaminated by water or other foreign substances, since it is sealed in a container. The extinguishers are made in 30 lb., 150 lb. and 300 lb. sizes. Larger units, including an automatic piped system, are available. All production of the new MET-L-X Extinguishers is earmarked for Defense Orders and therefore will not be available to the general market at the present time. For details, use the coupon.



SEALED-BEAM LANTERN

A SEALED beam type lamp for use in an all-weather electric lantern has been developed by the Westinghouse Lamp Division of N. J. The all-glass lamp is powered by a 6-volt battery in an aluminum case. The lamp was designed for sportsmen, railroaders, firemen, policemen and garagemen. Although using the same size battery, the lamp's 5,500 beam candlepower is twice that of a lamp in a conventional electric hand lantern, which has a bulb and separate metal reflector like most flashlights.

The lantern lamp has the same high optical precision as a sealed beam headlamp on an automobile. It has a clear lens for spotlighting purposes, unlike the automotive sealed beam headlamp that contains a checkerboard pattern of lens-like prisms. The unit weighs 44 ounces. For details, check the coupon.

LIGHT WEIGHT SAFETY GLASSES

A NEW metal safety goggle featuring light weight and stronger construction is announced by American Optical Company of Mass. Designed to provide superior eye protection from flying particles, the new F4100 Ful-Vue Metal Goggle has many outstanding design features not ordinarily found in metal safety goggles. The new lightweight eyewire is flat instead of round. Endpieces are streamlined and incorporate a friction joint with wide bearing surfaces minimizing temple drop. Screw heads are countersunk for non-snagging security.

Temples are lighter, easily adjusted, and have perspiration-proof, insulating tubing of an attractive brown color over the ear portions. Tubing is sealed to keep dirt out; will last for the life of the goggle without discoloring. Guard arms supporting the nose pads are longer and newly shaped for added ease of adjustment. The improved double-braced, Sampson bridge provides rugged strength.

Side shields, providing protection against laterally striking particles, are optional; may be obtained in either non-corrosive perforated wire mesh or clear acetate, perforated or non-perforated.

Goggles are supplied in three standard eye sizes and five standard bridge sizes. There is a smaller eye size and bridge size available for fitting goggles containing prescription lenses to small faces. The new F4100 goggle may be obtained with 6 curve Super Armorplate clear or Calobar lenses in medium, dark or extra dark shades. Goggles may be fitted with Super Armorplate lenses accurately ground to the worker's own prescription. For details, use the coupon.

TWO NEW SHOES

THE Government consumption of neoprene for defense purposes has created a current shortage of resist-oil and neoprene crepe soles. The Hy-Test Div. of International Shoe Co. has announced that deliveries of shoes specifying these soles are seriously affected and that they are offering two new types of shoes to compensate for the shortage.

The H735 has a neocork sole (oil resisting) as a substitute for the neoprene crepe soled shoe H714, now discontinued and for resist-oil soled H701, now on retarded delivery. It is a brown, moccasin-type blucher oxford with neocork sole and heel and steel arch.

The second addition to the Hy-Test line is H743, an ankle-high brown lace-to-toe shoe with black cord sole and heel. It can be substituted for H722 wherever oil is not prevalent. For details, send in the coupon.

VEHICLE TURNOVER SWITCH

DANGEROUS and often fatal fires from spilled gasoline when cars, trucks or buses are overturned in highway accidents are prevented by a new "safety" switch which cuts off ignition current the instant the vehicle tips to a 45-degree angle. Texas authorities have approved this device for trucks hauling liquefied petroleum gas.

Approved and listed by Underwriters' Laboratories, Inc., the Clapp Turnover Safety Switch is a product of the Clapp Company of Texas. It consists of a small cylinder, injection molded of transparent Plexiglas V-1000, an acrylic molding powder. This material is highly shatter-resistant, and it remains unclouded in the presence of gasoline and oil fumes, is unaffected by under-hood heat, and does not become brittle with age.

Terminals, mounted securely in a phenolic plastic block at the bottom of the cylinder, are covered with mercury to a depth of one-half inch. The switch is mounted vertically under the hood, usually on the front face of the fire wall, so that when the vehicle is tilted to 45 degrees, the mercury flows away from one terminal, breaking the ignition circuit. The phenolic block acts as a baffle, preventing accidental disruption of current on turns, quick stops or rough roads.

The switch is attached easily with two leads of vinyl-covered wires cut into the six-volt primary wire running from coil to distributor. Special connectors are squeezed flat with pliers. For details, use the coupon.

NEW AIR-FED HOOD

THE Chicago Eye Shield Co. of Illinois, announces a new #600 Air-Fed Hood that is approved by the U. S. Bureau of Mines under "Class C" Respirator for use in toxic dust and fumes. To eliminate bulk and rigidity, and to provide comfort and full freedom of movement, the hood is made of an extremely light weight, highly flexible, rubberized fabric. It is also completely adjustable.

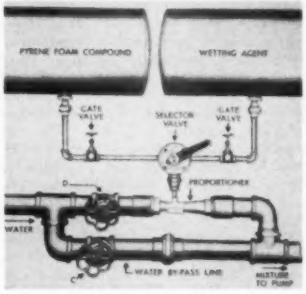
The #600 has an extra large, clear plastic window which allows extreme wide angle vision. In addition, its adjustable, plastic headband is mounted to the hood on a friction swivel to allow full vision up or down as the user moves his head.

Air fed into the #600 hood is tubed almost noiselessly to each side of the face and filtered through cloth bags so that a constant supply of clean, cool, fresh air is maintained directly in the respiratory zone. Further protection is given by a soft cotton bib which acts as a baffle to keep out dust. It zips out for cleaning. The #600 hood is ideal for lead discing and other grinding operations, light sand blasting, paint spraying, etc. Operating pressure 5 to 9 pounds. For details, send in the coupon.

NEW FOOT MAT & RESERVOIR

A REVOLUTIONARY new idea has just been developed in shower room foot treatment by the Foam-X Company of California. An ingenious plastic reservoir holds almost one gallon of Foam-X Solution which is automatically fed into the sponge rubber mat only as the solution is used up. Solution remains at same level in mat always, eliminating overfilling, splash and waste. An official of the company says the new Miracle Mat and Reservoir holds about 1500 foot treatments and that this saves up to 9/10ths of the serviceman's work.

Foam-X was developed by a well-known California bacteriologist and has been marketed commercially for some time. According to the makers, their product is not only an effective fungicide but also a pleasant-to-use, mild treatment which toughens the skin and steps up resistance to athlete's foot. The manufacturer offers a 2-week test of Foam-X Solution and the Miracle Mat and Reservoir at no risk whatever. If "Foam-X" does not clear up foot troubles after daily use by bathers in 2 weeks, as claimed, the user pays nothing. For details, send in the coupon.



FOAM & WETTING AGENT VALVE

MOTOR fire apparatus, railroad fire cars, fire fighting trailers and stationary installations can now make their supply of water more efficient at the flick of a valve by employing either air foam compound or wetting agent. Developed by the Pyrene Manufacturing Company of New Jersey, the new selector valve for use with a suction side proportioner is simple to operate and efficient. It is ruggedly constructed of stainless steel and has a 4-position dial plate for 1% or 2% of wetting agent, 5% of foam compound and an "off" position when only plain water is to be discharged.

A 1% concentration of wetting agent is used for Class A fires in wood, papers, textiles, whereas 2% is used for Class B fires in flammable liquids where the product is of a heavy base. Water containing wetting agent is most commonly used with fog nozzles. The 5% mixture of foam compound in water may be discharged through the Pyrene air foam playpipe to produce approximately 350 gallons of foam for every 20 gallons of water and one gallon of Pyrene foam compound. For details, send in the coupon.

AUTOMATIC EXIT LIGHT

OF TIMELY interest is the new LIGHT WARDEN Instant, Automatic Emergency EXIT Light that will assist in the safe evacuation of premises should the regular source of current fail. Under normal conditions the unit operates in the same manner as any ordinary exit light. If, however, the regular source of lighting power should fail, the EXIT light will operate instantly and automatically from power furnished by batteries within the unit. The emergency feature also furnishes a powerful downward beam to illuminate the floor area. The unit will furnish approximately 8 hours of emergency light from a 7½ volt standard dry battery.

Made by the Electric Cord Co. of N. Y., the emergency exit light complies with the National Electric Code, is approved by U.L., and covers all fire regulations. The EXIT lettering is in red or green on frosted vinylite. The unit is 14¾" x 8½" x 4½". For details, send in the coupon.

MOTOR GENERATOR VACUUM CLEANING

A REVOLUTIONARY technique that cleans motor generators by simultaneously blowing and vacuuming within the air tight confines of the Lehara "BLO-VAC" COVER has eliminated completely the inefficiencies of old processes that caused carbon and copper dust to be blown over every piece of equipment in the elevator machine room, that made a 5 hour wipe-up job out of a five minute cleaning operation, and partially asphyxiated the crew in the process. It is available from the Lehara Sales Corp. of New York. Ruggedly constructed of heavy cotton drill, coated inside and out with oil-resistant Neoprene, and fitted with 15 strategically located two-way zippers, the

"BLO-VAC" COVER is patterned to fit all Otis Type Motor Generators from #1's to #5's inclusive, and similar sizes of other makes.

With the "BLO-VAC" COVER draped over the motor generator, zippers are opened only where blower is inserted or where Suction Bell Intake on end of vacuum hose fits into the cover. Blowing and vacuuming simultaneously, it cleans out the dust from interior of motor generator and collects it in vacuum tank. The vacuum power unit of the Lehara Elevator Shaft and Machine Room Cleaning Kit pulls an air stream of 210 cubic feet per minute from the open zipper where blower is inserted. Dust blown loose by the blower is caught up in this and is carried into the tank of the power unit. For further details, use the coupon.

FIRST AID SEALING TAPE

BANDAGING of cuts and burns by nurses in general hospitals differs from that procedure practiced in industrial plants. In industry the nurse has a two-fold job: to provide adequate care and protection to injured workers, and to keep them on the job if at all possible. A new surgical item which assists them in this function is a thin, pliable plastic bandaging tape made by Brasel Products, Inc., of Illinois.

Called Easitape, it is not sticky like adhesive tapes, leaves no residue or stains, and completely protects bandaged dressings from oil, water, dirt and other foreign matter. It appears to be uncoated, but is coated on both sides with compounded Hycar latex, the base material, manufactured by B. F. Goodrich Chemical Company. This coating enables the tape to seal quickly and to remain sealed. It will not come loose in oil or water, may be washed repeatedly with no loosening of the seal, and keeps the injured member completely mobile. For details, use the coupon.

EAR VALVE

AN EAR instrument that will stop loud sudden noises from reaching the ear drum yet admit conversational tones is now available to the Armed Forces, industrial workers, and sportsmen, according to Sigma Sales Corporation of California. Designated the Lee Ear-Valv, it is a precision built mechanical ear protector which fits comfortably into the ear canal. It is definitely a valve—a sonic filter—and not an ear plug. The Lee Ear-Valv eliminates the harmful effect

of sudden blast-type noises on the ear drums and while doing so, leaves the ear canal open permitting the passage of normal voice or telephone level sounds. It also eliminates the force caused by the vacuum following an explosion which is more harmful to the ear drum than the explosive force itself.

In addition to the industrial worker's using the valve for safety to the ear drums and freedom from disturbing noises, it is welcomed by management because of the resultant increase in employee morale and efficiency. The valve is comfortable to wear and does not interfere with the wearing of safety headgear, flight helmets, or earphones. It is made of non-corrosive metal treated in accordance with government specifications, and soft rubber. It is light weight, yet sturdy enough to withstand dropping upon a hard surface. For details, send in the coupon.

VISOR GOGGLE

A NEW safety goggle with some unique features has just been placed on the market by Jones & Company of Rhode Island. The new VISOR GOGGLE utilizes a one-piece shatterproof plastic lens which offers unobstructed full vision along with protection of the wearer's eyes. The lens is optically correct, nonflammable, and will not fog or pit. It can be worn over other eyeglasses, and is light, cool, comfortable, and neat in appearance.

Some of the unusual features of the VISOR GOGGLE are a visor top which shades the eyes from overhead light; a new visor head-band suspension for increased comfort; and a new down-angle lens placement for clearer vision free from glare, distortion and reflection. In addition to the all-important necessity of eye protection which this goggle offers, it also takes account of what is acceptable to the industrial worker. Here is a light-weight goggle which workers will be glad to wear, will want to wear, and will wear. For details, send in the coupon.

TOILET FLUSH PEDAL

WITH the help of leading Sanitation Directors, the EASY FLUSH PEDAL has been developed in a new design especially for industrial plants and institutions. Made by Approved Products Co. of N. Y., this advancement has solved the age-old problem of flushing toilets without the hand's touching the flush-valve handle. This unit, because of the convenience and the sanitary aspects of the foot-operated pedal, eliminates unflushed toilets. The problem of sticking valves is overcome and flush valve maintenance is reduced. Both management and employee comment is highly favorable, and the unit is endorsed by washroom superintendents and matrons.

This new wall-mounted-type EASY PEDAL FLUSH is designed to fit all flushometer-type water-closets on both existing and new installations. It is of sturdy construction and design, finished in polished chromium plating on heavy gauge brass, with stainless-steel spring. For further details, send in the coupon.

January, 1951

To Safety Maintenance & Production

75 Fulton St., New York 7, N. Y.

For prices and complete details of items mentioned in this month's "What's New in Safety Products," check items that interest you and mail coupon.

- ☐ Non-Slip Floor Wax
- ☐ Metal-Fire Extinguisher
- ☐ Sealed-Beam Lantern
- ☐ Light Weight Safety Glasses
- ☐ Two New Shoes
- ☐ Vehicle Turnover Switch
- ☐ New Air-Fed Hood
- ☐ New Foot Mat & Reservoir
- ☐ Foam and Wetting Agent Valve
- ☐ Automatic Exit Light
- ☐ Motor Generator Vacuum Cleaning
- ☐ First Aid Sealing Tape
- ☐ Ear Valve
- ☐ Visor Goggle
- ☐ Toilet Flush Pedal
- ☐ Combustible Gas Indicator
- ☐ Floor Sweeping Device
- ☐ Hard Floor Resurfacer
- ☐ Car Spotter

Firm Name .....

Attention of .....

Position .....

Firm Address .....

City .....

COMBUSTIBLE GAS INDICATOR FOR LEADED GASOLINE

A COMBUSTIBLE Gas Indicator, designed specifically for use by the oil industry on leaded gasoline has been produced by Davis Instruments, a division of Davis Emergency Equipment Co. of New Jersey. Known as the "Davis Vapotester Model M-1, Type L," it cannot be "poisoned" by tetra ethyl lead, and is therefore the only indicator thus far approved for use on leaded stock by Underwriters' Laboratories and Factory Mutual Laboratories.

Like all Davis Vapotesters, it operates on the principle of the Wheatstone Bridge. The instrument is ideally suited for determining the gas-free condition of tanks and other enclosed vessels commonly used in the oil industry. The indicator registers accurately the relatively light concentrations of vapors present after the tank has been steamed and ventilated, and is unaffected by the tetra ethyl lead vapor. It gives a quick index to the vapor concentration and thus serves as an invaluable safety gauge in handling leaded stock. For details, send in the coupon.

FLOOR SWEEPING DEVICE

CLOCLAMP is the latest development in modern, scientific floor maintenance to give users floors that are free of the finest germ-carrying dust, dirt and soot. Made of lightweight aluminum as an accessory device for a regular brush broom, CLOCLAMP is the result of extensive research by the Walter G. Legge, Co., Inc. of N. Y.

A damp cloth is placed under the push-broom and the CLOCLAMP is slipped over the broom handle. The folded edge of the cloth is fastened in place by two clips, and smooth-surfaced floors can be damp swept. When the portion of the cloth under the broom becomes soiled, the CLOCLAMP can be moved upward on the handle, bringing a new portion of the cloth directly under the brush. The operation is repeated until the whole cloth is dirty. This device is designed to do a really efficient job in removing the most elusive dust particles, leaving floors clean, bright and sanitary. For details, use the coupon.

HARD FLOOR RESURFACER

TWO practical floor resurfacing materials have been placed on the market by The Monroe Co. of Ohio. The products, REZILO, for wood floors, and STEELHARD, for concrete floors, will give overnight a hard, durable, resilient surface. These new plasticized floorings can be applied right over wood or concrete without using metal lathe or roughening the concrete.

Application is easy. After priming the floor, spread the ready-mixed material and pack it solidly with a tamp, roller or truck. It forms an unusually hard and smooth surface which makes industrial trucking easier. Already in use in warehouses and loading docks, the material is suitable for inside or outside use, aisles, platforms and driveways. Salt does not affect it and heat will not soften it. For details, send in the coupon.

CAR SPOTTER FOR GROUND & TRACK TRAVEL

NEW versatility and efficiency in the big job of hauling, spotting and switching railway cars is promised by the Whiting Corp. of Illinois with the introduction of its new Trackmobile for industries and railroads. The small, compact, gasoline-powered Trackmobile uses hydraulic jacking power to travel either on the railway track or on the ground and to change from one to the other in 30 seconds, and also to develop an adhesive force for pulling. Equipped with four standard AAR steel wheels for track travel and four rubber-tired wheels for ground travel, the unit can move from track to ground to cross the yard for another job.

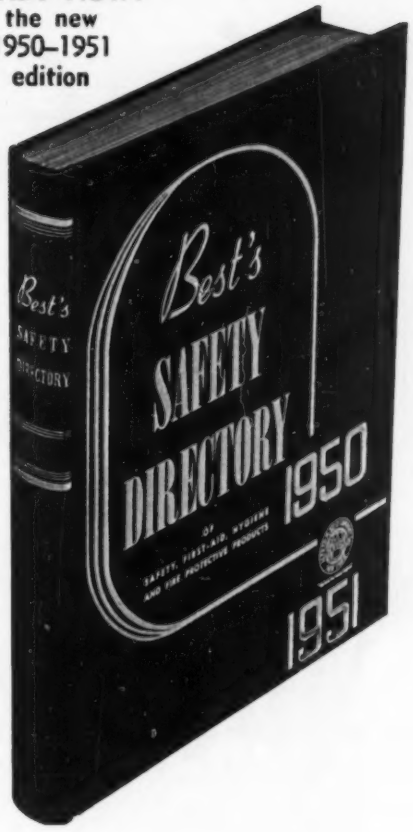
Whiting executives foresee a broad market for the Trackmobile in industrial plants, military and naval bases, railroad car shops, quarries, coal yards, docks, mines, etc. For further details, use the coupon.

Now!

Is the Time to Order the new

BEST'S SAFETY DIRECTORY

READY NOW!
the new
1950–1951
edition



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WHERE they are used
HOW to get them

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75 Fulton Street, New York City 7

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City _____ Zone _____ State _____

check list

OF PRODUCTS ADVERTISED IN THIS ISSUE

For full details, without obligation, merely check this list, fill in your name and address, and mail to: Service Dept., SAFETY MAINTENANCE & PRODUCTION, 75 Fulton St., New York 7, N. Y.
JANUARY, 1951

	See Page
☐ Dust Respirator	Inside Front Cover
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☐ Wire Rope Slings	2
☐ Air Fed Hood	3
☐ Safety Shoes	5
☐ Safety Eyewear	7
☐ Respirators	8
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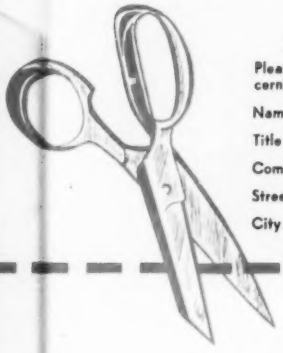

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